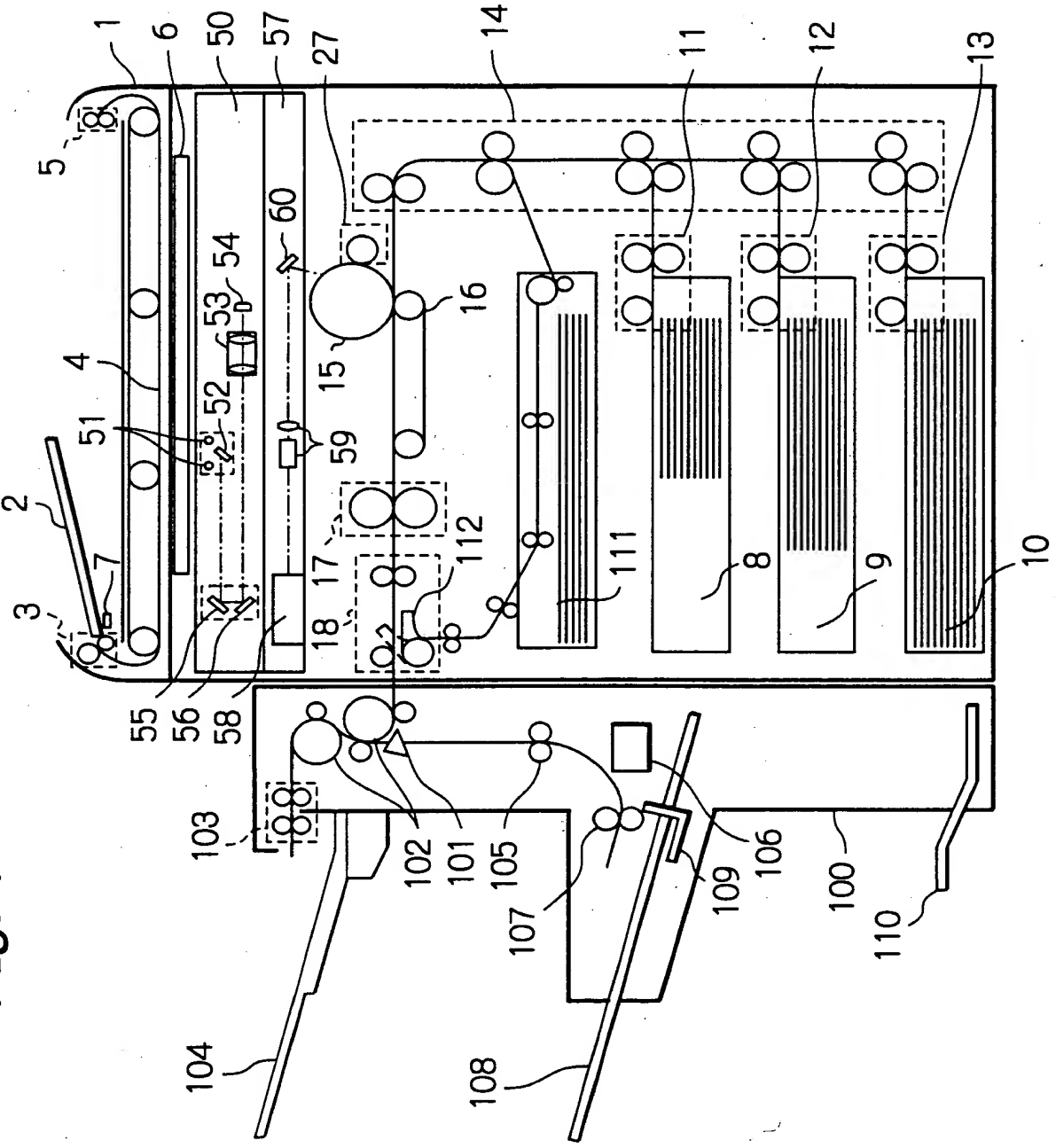

1
6
50
57
27
14
11
12
13
5
60
54
53
16
4
52
15
51
59
2
112
17
111
8
9
10
3
7
18
55
56
58
103
102
101
105
107
109
106
100
110
104
108

Fig. 1

Fig. 2

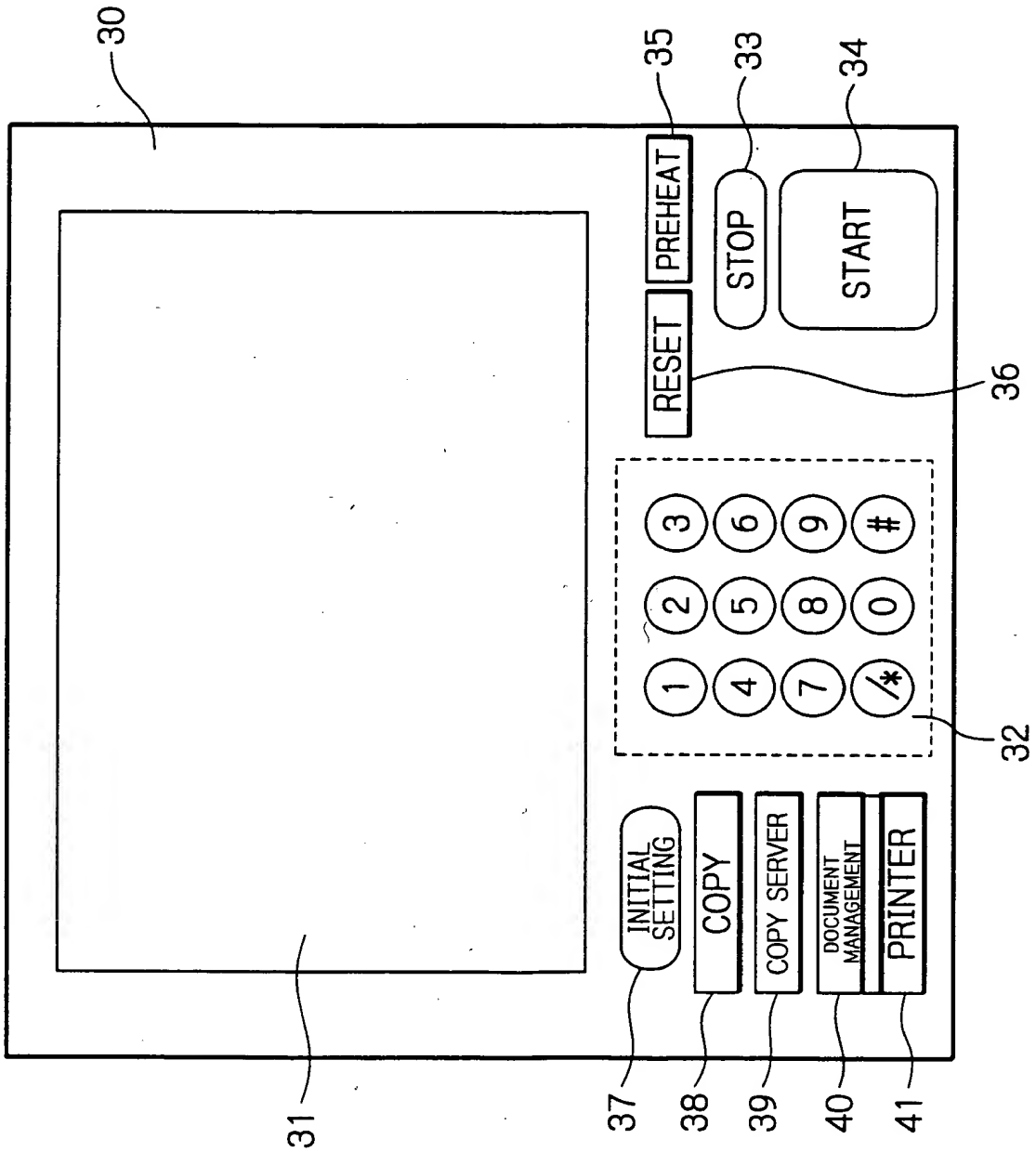

30
35
33
34
PREHEAT
STOP
START
RESET
36
3
6
9
#
2
5
8
0
1
4
7
/*
32
INITIAL SETTING
COPY
COPY SERVER
DOCUMENT MANAGEMENT
PRINTER
31
37
38
39
40
41

Fig. 3

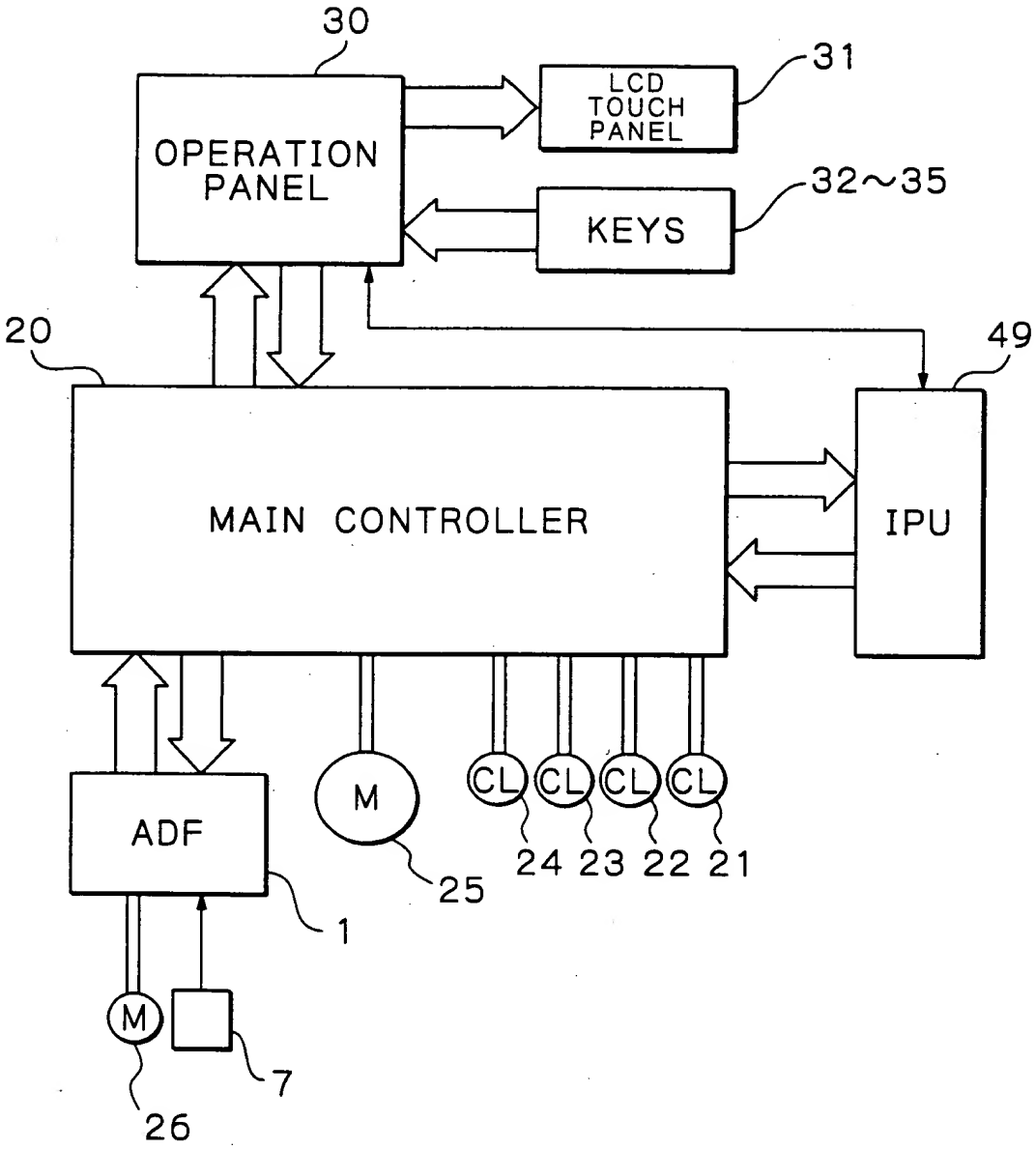

30
OPERATION PANEL
LCD TOUCH PANEL
31
KEYS
32~35
20
49
MAIN CONTROLLER
IPU
ADF
M
CL
CL
CL
CL
24 23 22 21
25
1
M
7
26

Fig. 4

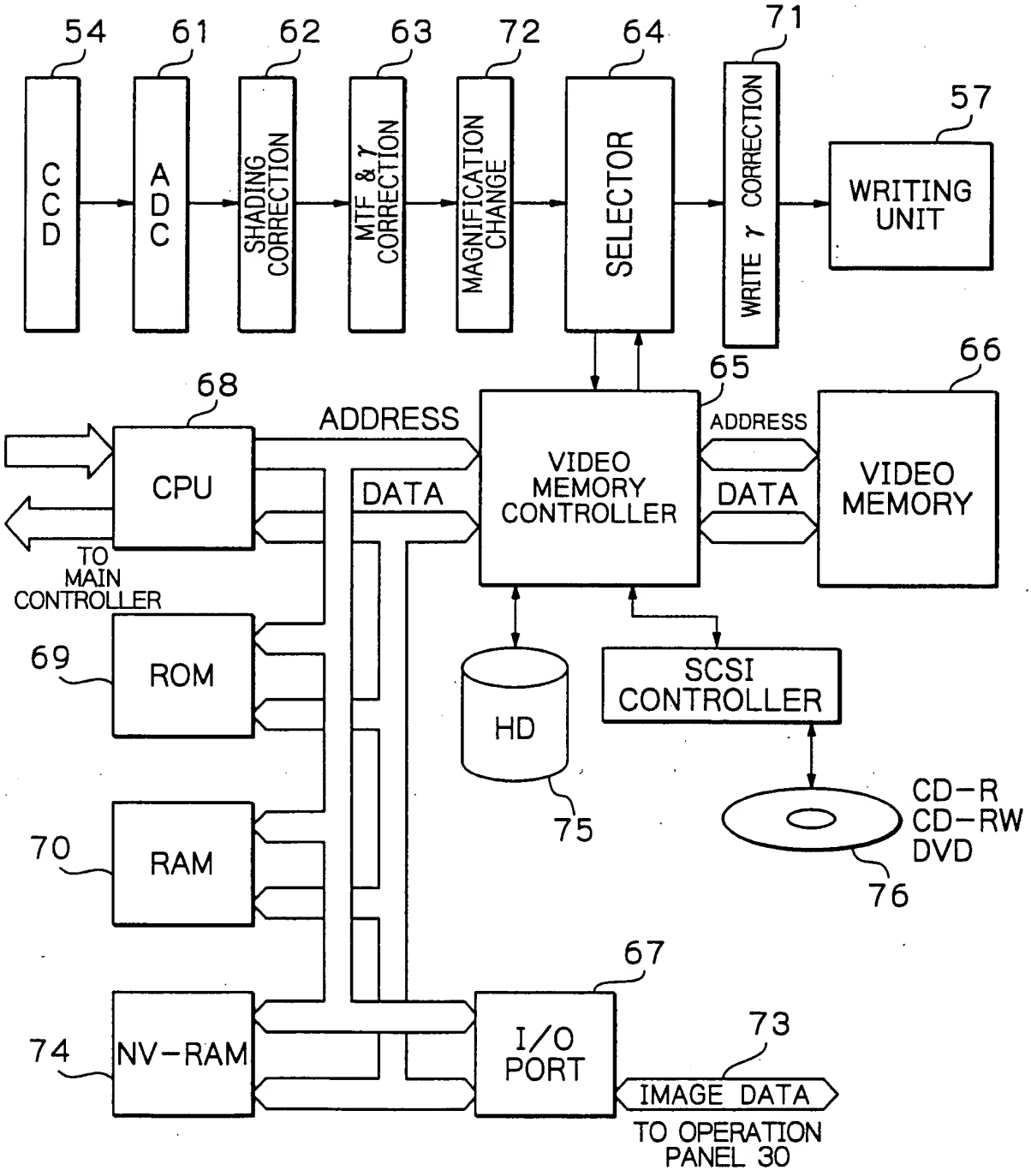

54
61
62
63
72
64
71
57
CCD
ADC
SHADING CORRECTION
MTF & γ CORRECTION
MAGNIFICATION CHANGE
SELECTOR
WRITE γ CORRECTION
WRITING UNIT
66
65
68
ADDRESS
ADDRESS
CPU
DATA
VIDEO MEMORY CONTROLLER
DATA
VIDEO MEMORY
TO MAIN CONTROLLER
69
ROM
HD
SCSI CONTROLLER
75
CD-R
CD-RW
DVD
76
70
RAM
67
74
NV-RAM
I/O PORT
73
IMAGE DATA
TO OPERATION PANEL 30

Fig. 5

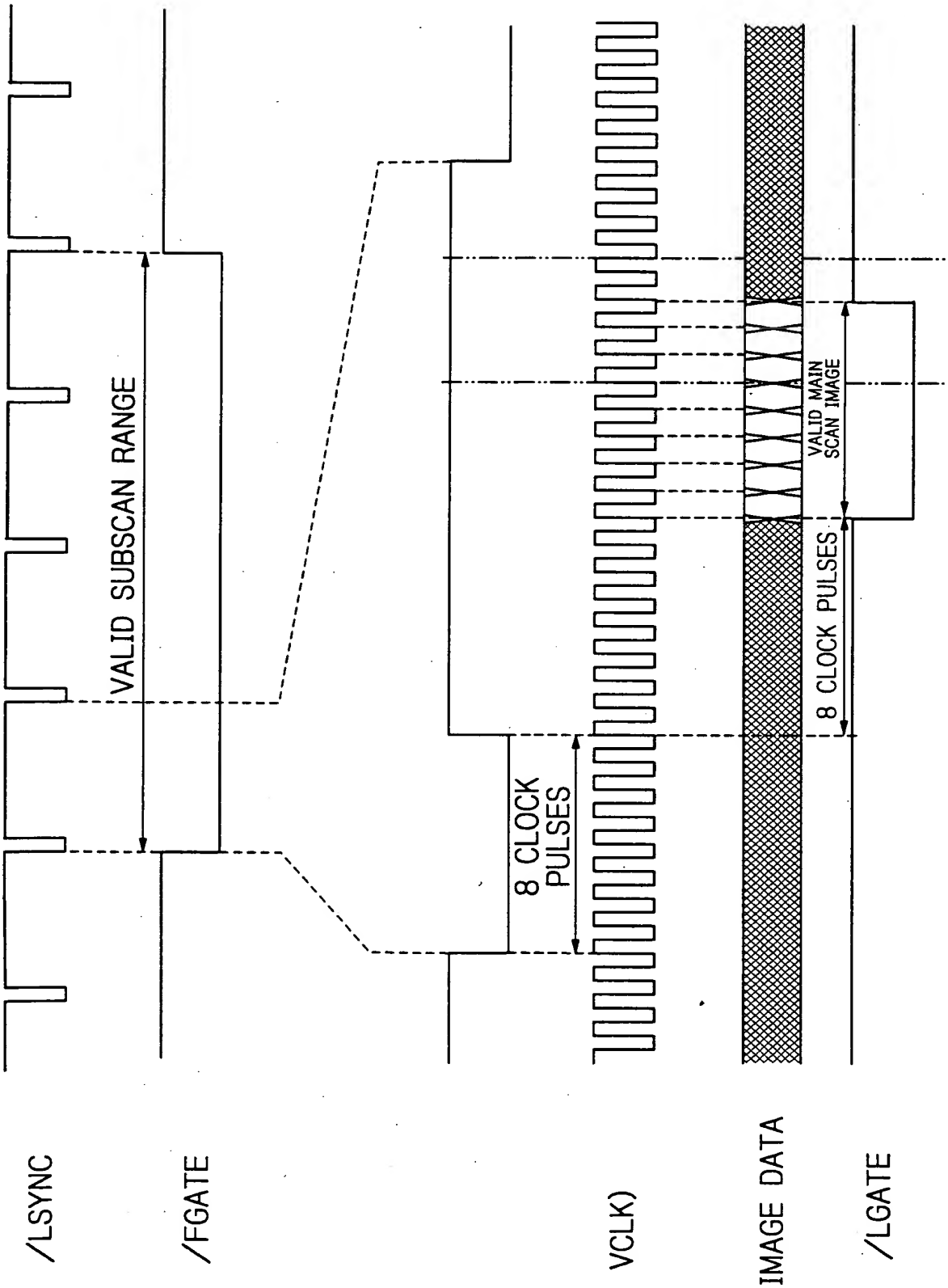

/LSYNC
/FGATE
VALID SUBSCAN RANGE
VCLK)
8 CLOCK PULSES
IMAGE DATA
VALID MAIN SCAN IMAGE
8 CLOCK PULSES
/LGATE

Fig. 6

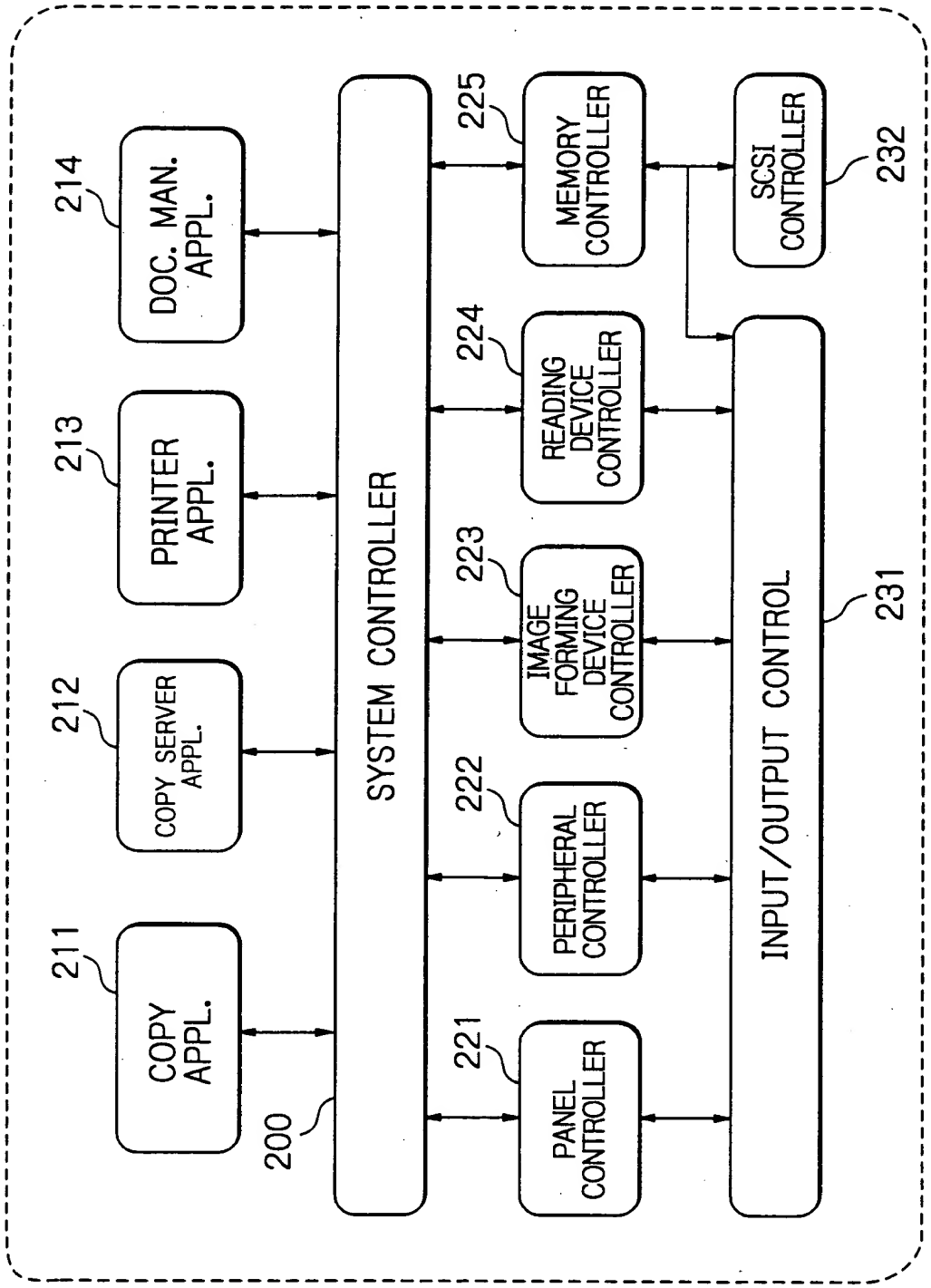

COPY APPL.
211
COPY SERVER APPL.
212
PRINTER APPL.
213
DOC. MAN. APPL.
214
200
SYSTEM CONTROLLER
PANEL CONTROLLER
221
PERIPHERAL CONTROLLER
222
IMAGE FORMING DEVICE CONTROLLER
223
READING DEVICE CONTROLLER
224
MEMORY CONTROLLER
225
INPUT/OUTPUT CONTROL
231
SCSI CONTROLLER
232

Fig. 7

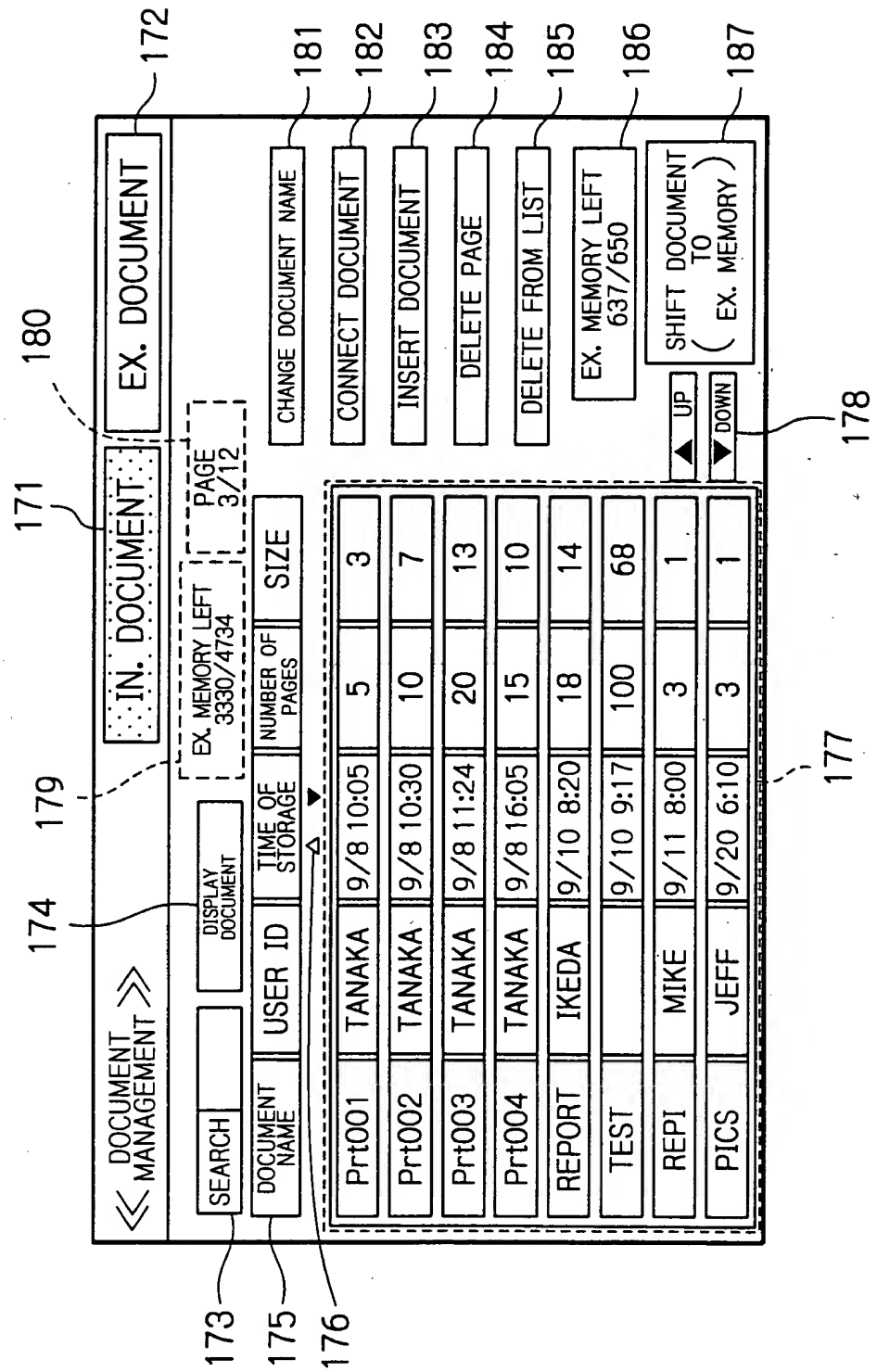

DOCUMENT MANAGEMENT
IN. DOCUMENT
EX. DOCUMENT
EX. MEMORY LEFT 3330/4734
PAGE 3/12
SEARCH
DISPLAY DOCUMENT
DOCUMENT NAME
USER ID
TIME OF STORAGE
NUMBER OF PAGES
SIZE
Prt001 TANAKA 9/8 10:05 5 3
Prt002 TANAKA 9/8 10:30 10 7
Prt003 TANAKA 9/8 11:24 20 13
Prt004 TANAKA 9/8 16:05 15 10
REPORT IKEDA 9/10 8:20 18 14
TEST 9/10 9:17 100 68
REPI MIKE 9/11 8:00 3 1
PICS JEFF 9/20 6:10 3 1
CHANGE DOCUMENT NAME
CONNECT DOCUMENT
INSERT DOCUMENT
DELETE PAGE
DELETE FROM LIST
EX. MEMORY LEFT 637/650
SHIFT DOCUMENT TO EX. MEMORY
UP
DOWN
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187

Fig. 8

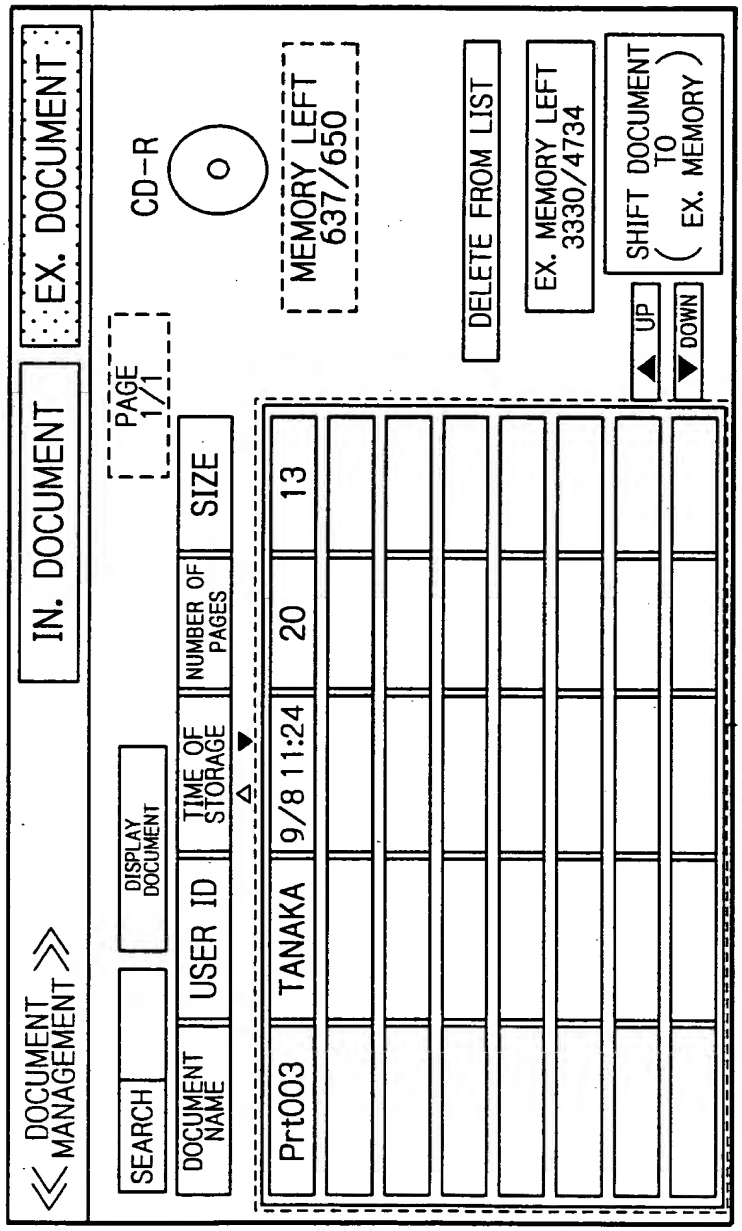

≪ DOCUMENT MANAGEMENT ≫
IN. DOCUMENT
EX. DOCUMENT
SEARCH
DISPLAY DOCUMENT
PAGE 1/1
CD-R
DOCUMENT NAME
USER ID
TIME OF STORAGE
NUMBER OF PAGES
SIZE
MEMORY LEFT 637/650
DELETE FROM LIST
EX. MEMORY LEFT 3330/4734
SHIFT DOCUMENT TO (EX. MEMORY)
UP
DOWN
Prt003
TANAKA
9/8 11:24
20
13
191

Fig. 9

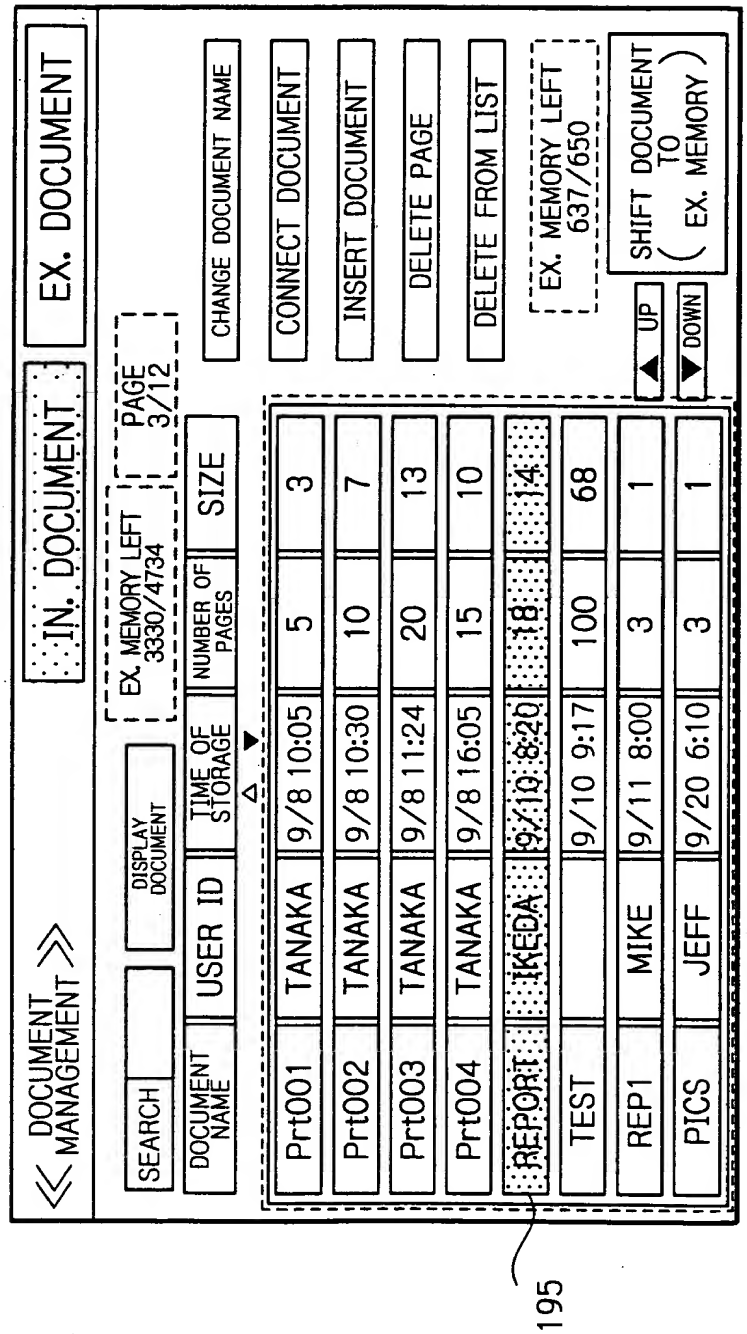

DOCUMENT MANAGEMENT
IN. DOCUMENT
EX. DOCUMENT
SEARCH
DISPLAY DOCUMENT
EX. MEMORY LEFT 3330/4734
PAGE 3/12
DOCUMENT NAME
USER ID
TIME OF STORAGE
NUMBER OF PAGES
SIZE
CHANGE DOCUMENT NAME
CONNECT DOCUMENT
INSERT DOCUMENT
DELETE PAGE
DELETE FROM LIST
EX. MEMORY LEFT 637/650
SHIFT DOCUMENT TO (EX. MEMORY)
UP
DOWN
Prt001 TANAKA 9/8 10:05 5 3
Prt002 TANAKA 9/8 10:30 10 7
Prt003 TANAKA 9/8 11:24 20 13
Prt004 TANAKA 9/8 16:05 15 10
REPORT IKEDA 9/10 8:20 18 14
TEST 9/10 9:17 100 68
REP1 MIKE 9/11 8:00 3 1
PICS JEFF 9/20 6:10 3 1
195

Fig. 10

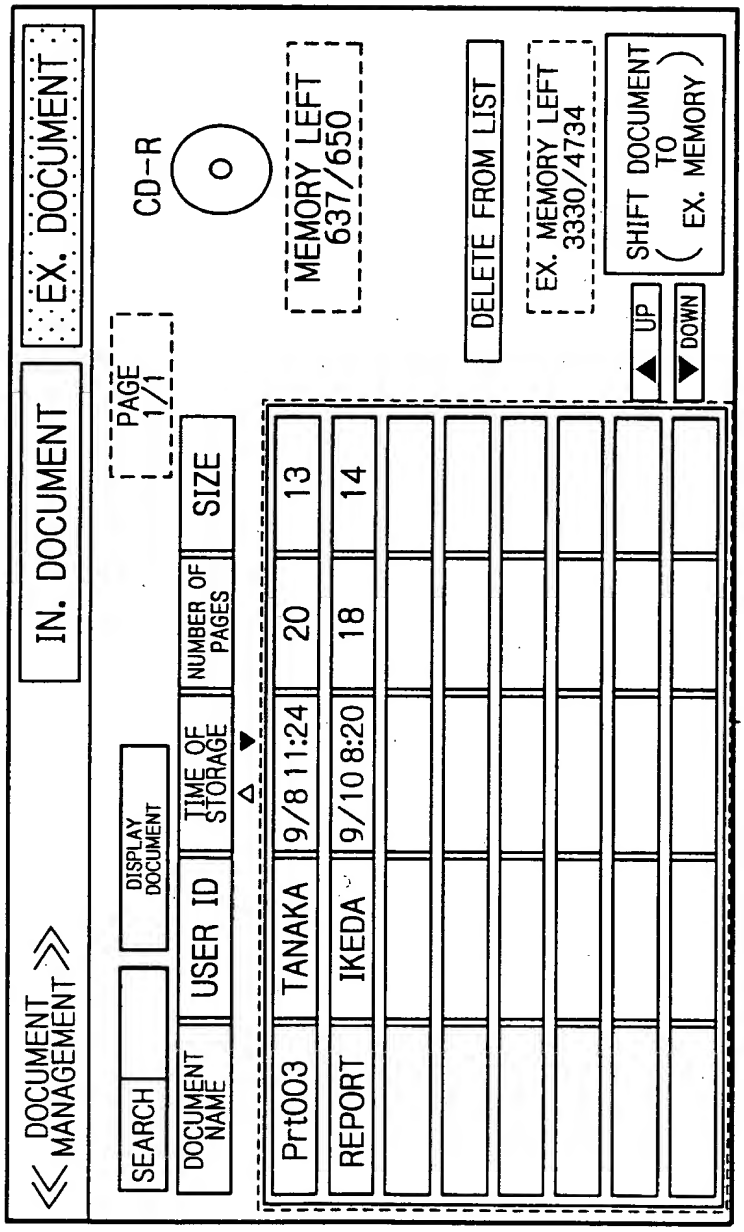

DOCUMENT MANAGEMENT
IN. DOCUMENT
EX. DOCUMENT
SEARCH
DISPLAY DOCUMENT
PAGE 1/1
CD-R
DOCUMENT NAME
USER ID
TIME OF STORAGE
NUMBER OF PAGES
SIZE
MEMORY LEFT 637/650
DELETE FROM LIST
EX. MEMORY LEFT 3330/4734
SHIFT DOCUMENT TO (EX. MEMORY)
UP
DOWN
Prt003 TANAKA 9/8 11:24 20 13
REPORT IKEDA 9/10 8:20 18 14
198

Fig. 11

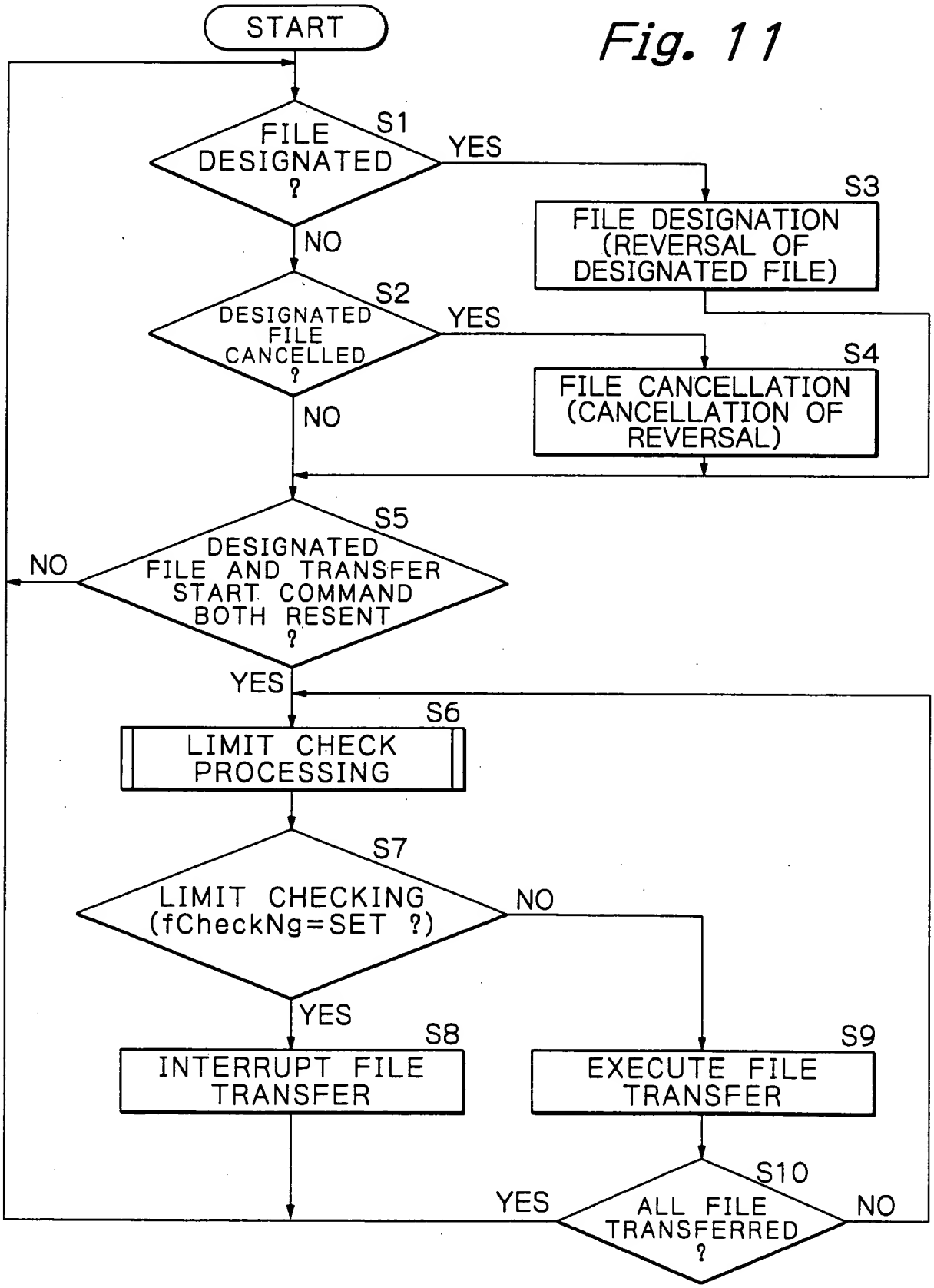

START
S1
FILE DESIGNATED ?
YES
NO
S3
FILE DESIGNATION (REVERSAL OF DESIGNATED FILE)
S2
DESIGNATED FILE CANCELLED ?
YES
NO
S4
FILE CANCELLATION (CANCELLATION OF REVERSAL)
S5
DESIGNATED FILE AND TRANSFER START COMMAND BOTH RESENT ?
NO
YES
S6
LIMIT CHECK PROCESSING
S7
LIMIT CHECKING (fCheckNg=SET ?)
NO
YES
S8
INTERRUPT FILE TRANSFER
S9
EXECUTE FILE TRANSFER
S10
ALL FILE TRANSFERRED ?
YES
NO

Fig. 12

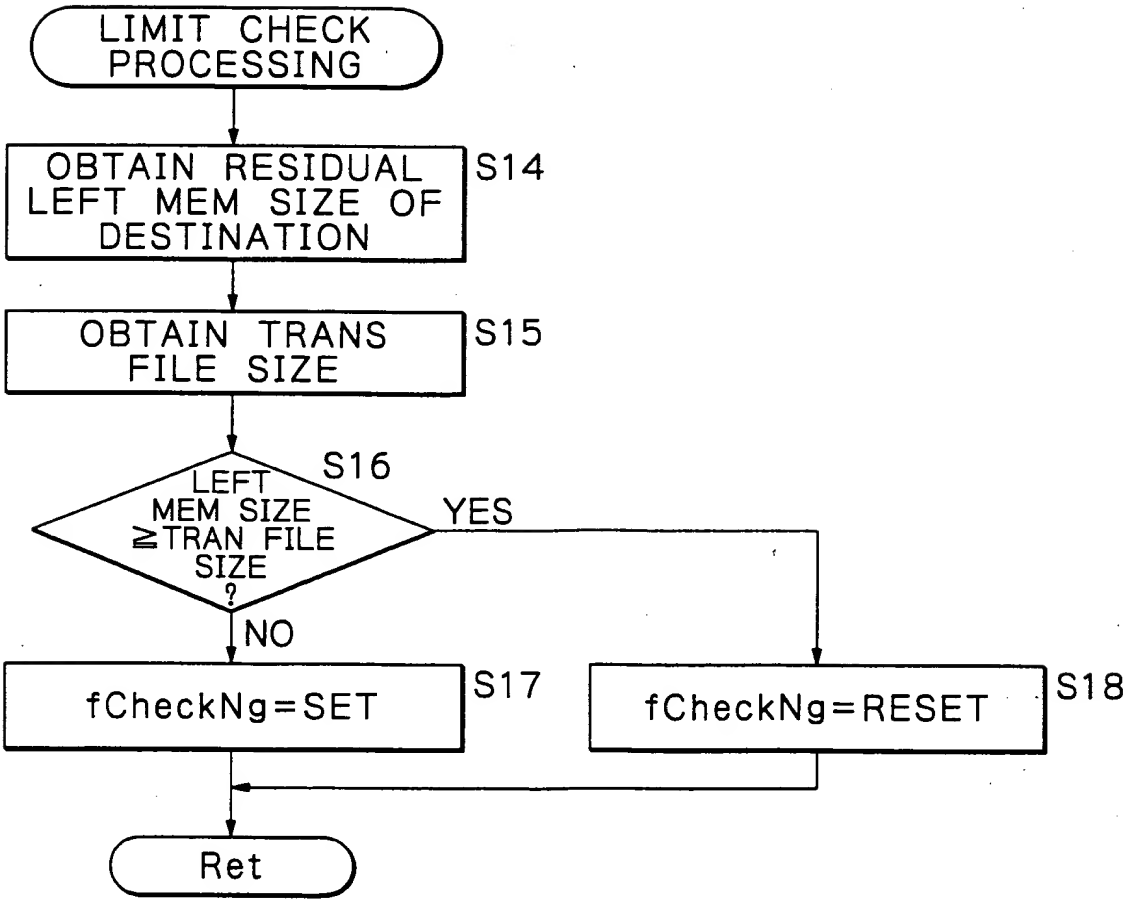

LIMIT CHECK PROCESSING
OBTAIN RESIDUAL LEFT MEM SIZE OF DESTINATION
S14
OBTAIN TRANS FILE SIZE
S15
LEFT MEM SIZE ≧TRAN FILE SIZE ?
S16
YES
NO
fCheckNg=SET
S17
fCheckNg=RESET
S18
Ret

Fig. 13

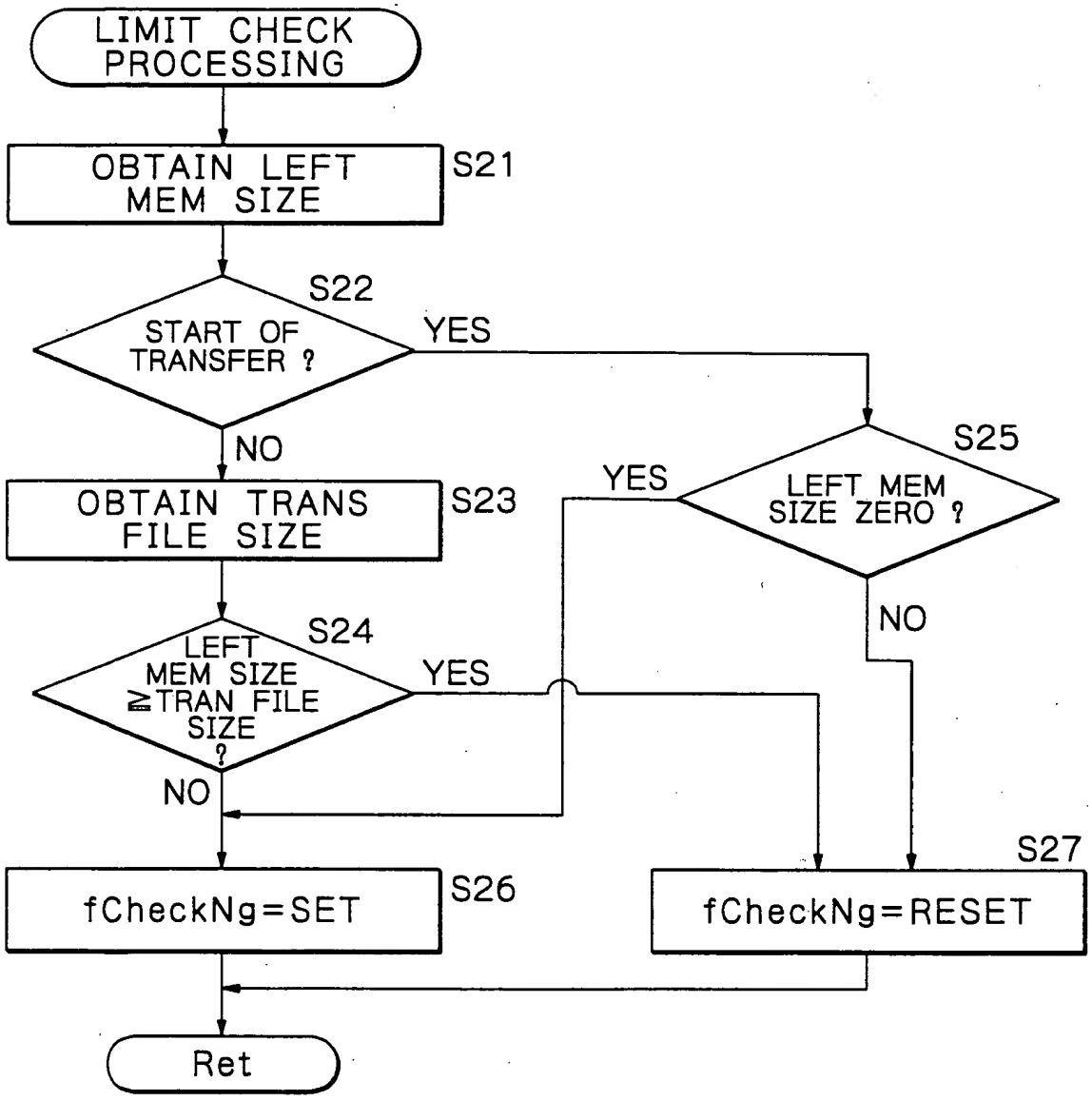

LIMIT CHECK PROCESSING
OBTAIN LEFT MEM SIZE
S21
S22
START OF TRANSFER ?
YES
NO
OBTAIN TRANS FILE SIZE
S23
S24
LEFT MEM SIZE ≧TRAN FILE SIZE ?
YES
NO
S25
YES
LEFT MEM SIZE ZERO ?
NO
fCheckNg=SET
S26
fCheckNg=RESET
S27
Ret

Fig. 14A

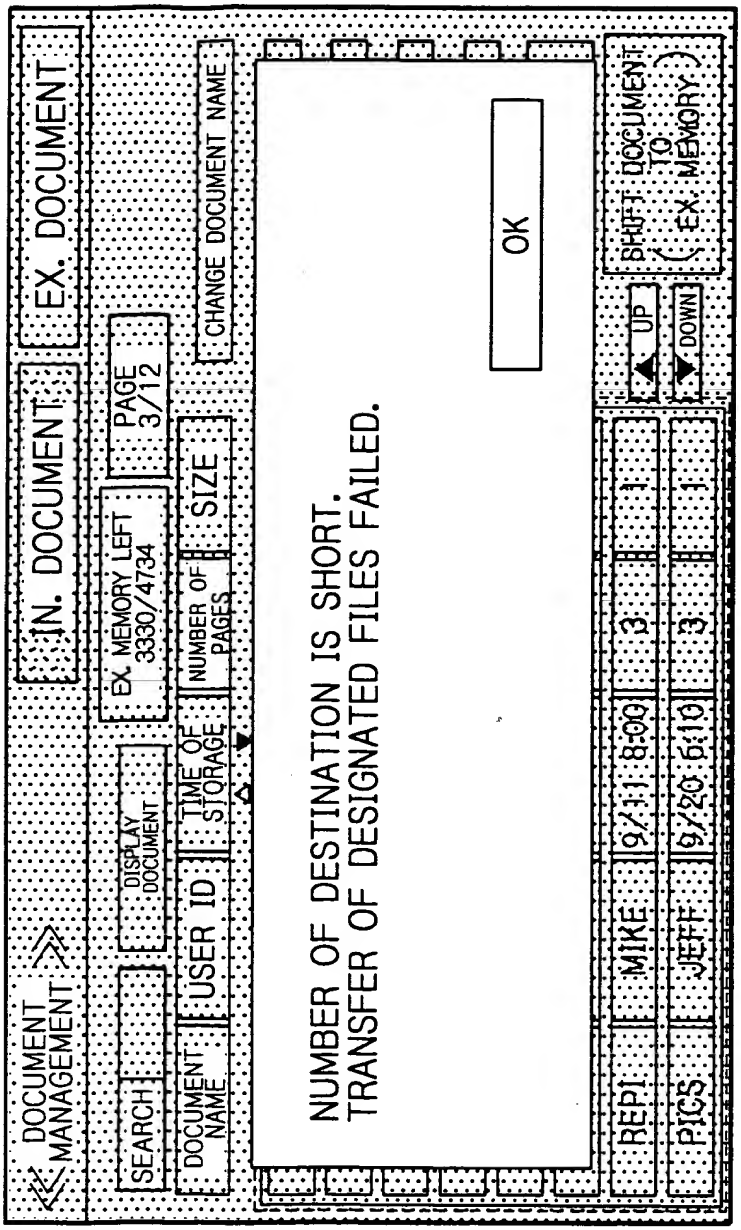

DOCUMENT MANAGEMENT
IN. DOCUMENT
EX. DOCUMENT
SEARCH
DISPLAY DOCUMENT
PAGE 3/12
EX. MEMORY LEFT 3330/4734
CHANGE DOCUMENT NAME
DOCUMENT NAME
USER ID
TIME OF STORAGE
NUMBER OF PAGES
SIZE
NUMBER OF DESTINATION IS SHORT.
TRANSFER OF DESIGNATED FILES FAILED.
OK
SHIFT DOCUMENT TO (EX. MEMORY)
UP
DOWN
REPI
MIKE
9/11 8:00
3
1
PICS
JEFF
9/20 6:10
3
1

Fig. 14B

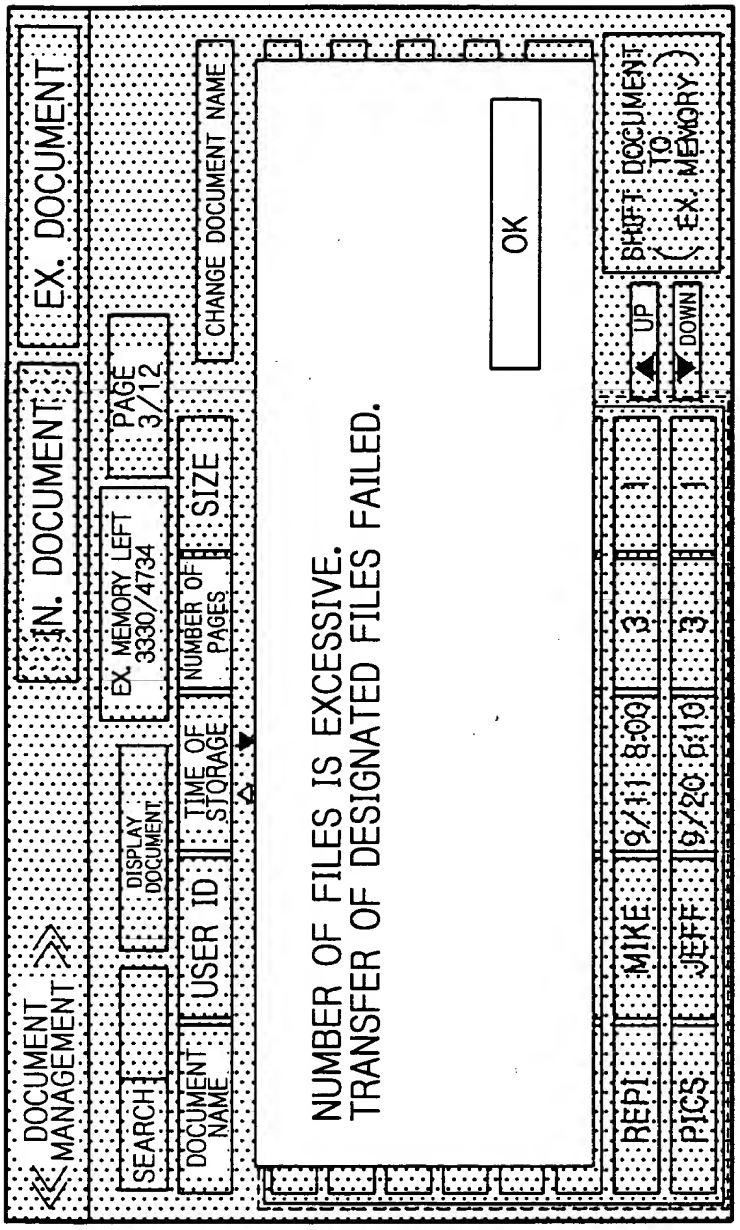

DOCUMENT MANAGEMENT
SEARCH
DISPLAY DOCUMENT
IN. DOCUMENT
EX. DOCUMENT
EX. MEMORY LEFT 3330/4734
PAGE 3/12
CHANGE DOCUMENT NAME
DOCUMENT NAME
USER ID
TIME OF STORAGE
NUMBER OF PAGES
SIZE
NUMBER OF FILES IS EXCESSIVE.
TRANSFER OF DESIGNATED FILES FAILED.
OK
SHIFT DOCUMENT TO (EX. MEMORY)
UP
DOWN
REPI
MIKE
9/11 8:00
3
1
PICS
JEFF
9/20 6:10
3
1

Fig. 15

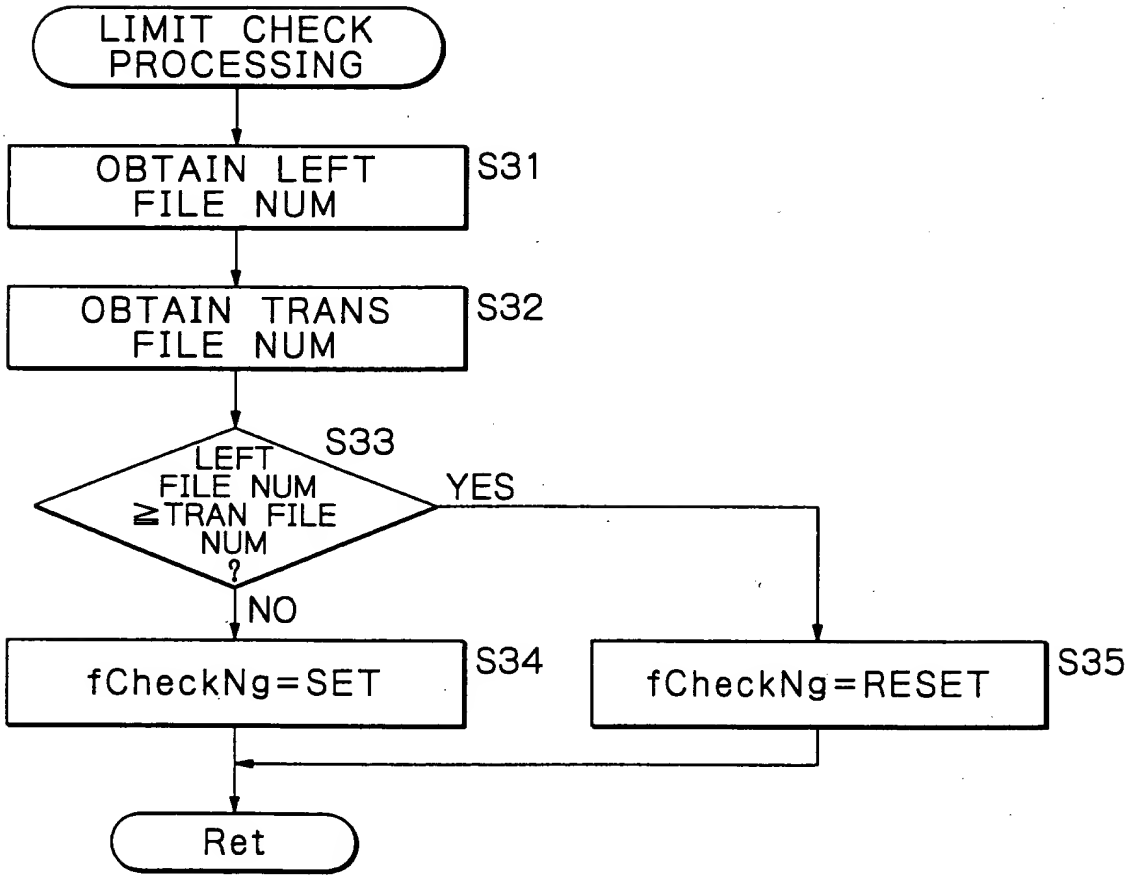

LIMIT CHECK PROCESSING
OBTAIN LEFT FILE NUM
S31
OBTAIN TRANS FILE NUM
S32
S33
LEFT FILE NUM ≧TRAN FILE NUM ?
YES
NO
fCheckNg=SET
S34
fCheckNg=RESET
S35
Ret

Fig. 16

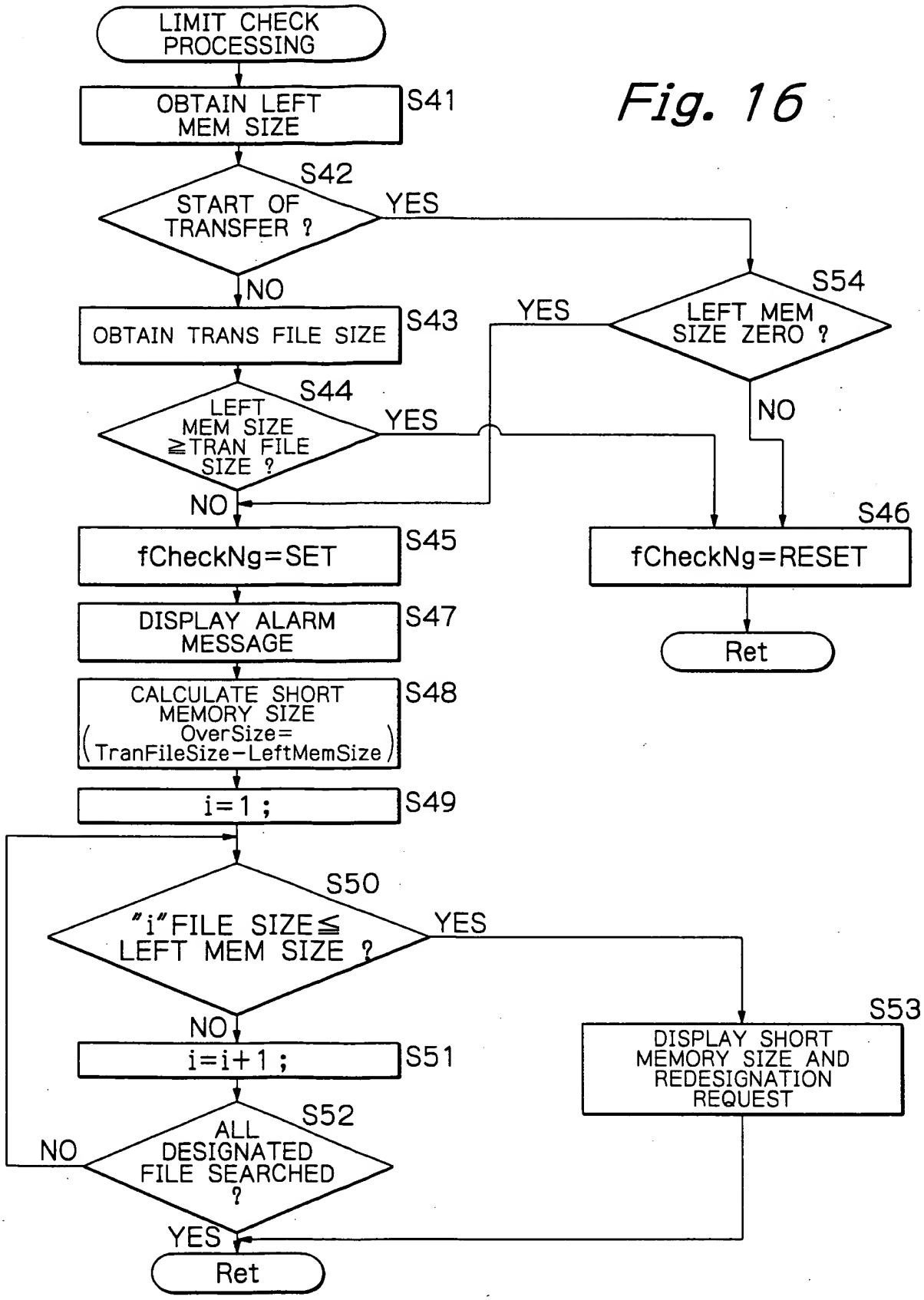

LIMIT CHECK PROCESSING
OBTAIN LEFT MEM SIZE
S41
START OF TRANSFER ?
S42
YES
NO
OBTAIN TRANS FILE SIZE
S43
LEFT MEM SIZE ≧TRAN FILE SIZE ?
S44
YES
NO
LEFT MEM SIZE ZERO ?
S54
YES
NO
fCheckNg=SET
S45
fCheckNg=RESET
S46
DISPLAY ALARM MESSAGE
S47
CALCULATE SHORT MEMORY SIZE (OverSize= TranFileSize−LeftMemSize)
S48
i=1 ;
S49
"i"FILE SIZE≦ LEFT MEM SIZE ?
S50
YES
NO
i=i+1 ;
S51
ALL DESIGNATED FILE SEARCHED ?
S52
NO
YES
DISPLAY SHORT MEMORY SIZE AND REDESIGNATION REQUEST
S53
Ret
Ret

Fig. 17

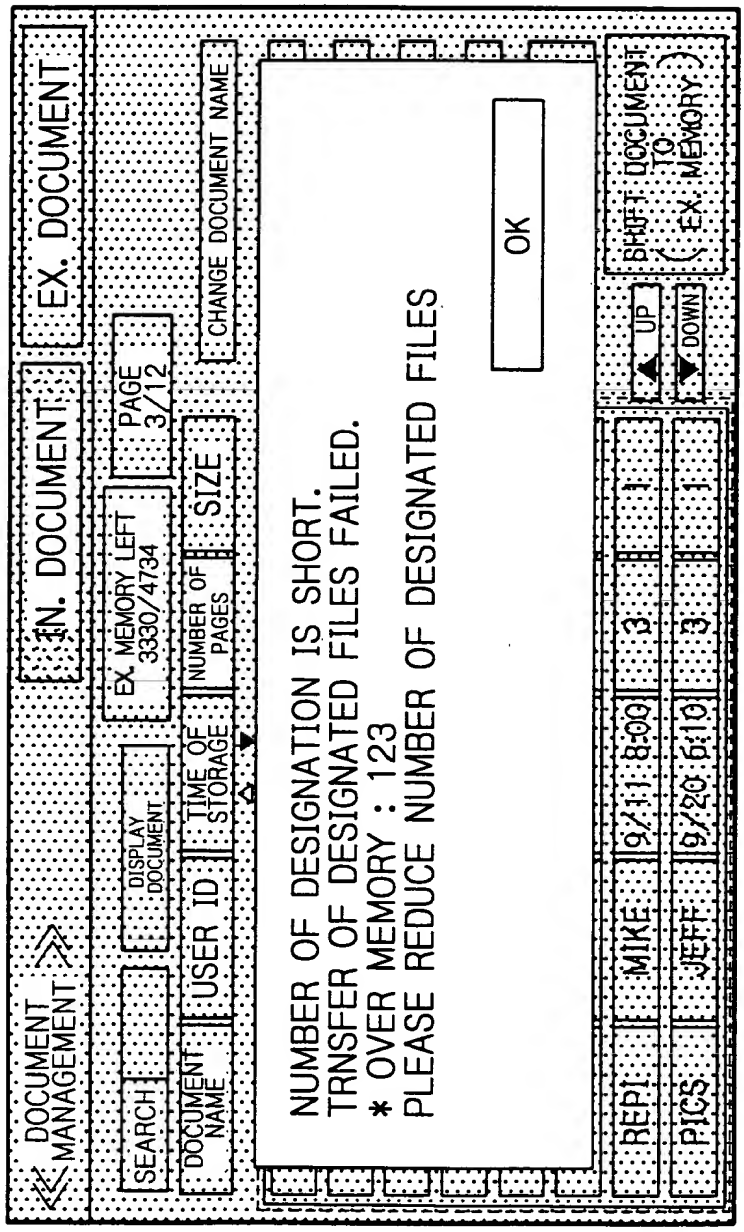

DOCUMENT MANAGEMENT
SEARCH
DOCUMENT NAME
USER ID
TIME OF STORAGE
NUMBER OF PAGES
SIZE
DISPLAY DOCUMENT
EX. MEMORY LEFT 3330/4734
PAGE 3/12
CHANGE DOCUMENT NAME
EX. DOCUMENT
IN. DOCUMENT
NUMBER OF DESIGNATION IS SHORT.
TRNSFER OF DESIGNATED FILES FAILED.
* OVER MEMORY : 123
PLEASE REDUCE NUMBER OF DESIGNATED FILES
OK
SHIFT DOCUMENT TO (EX. MEMORY)
UP
DOWN
REPI
MIKE
9/11 8:00
3
1
PICS
JEFF
9/20 6:10
3
1

Fig. 18

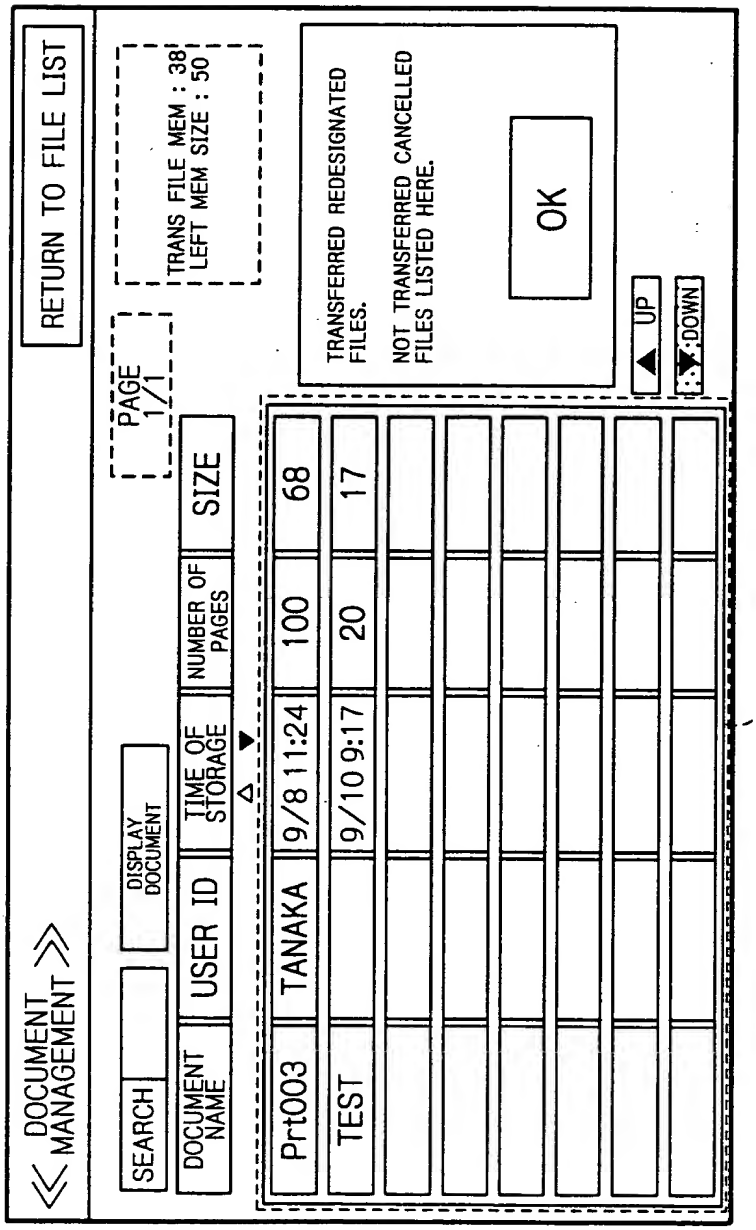

RETURN TO FILE LIST
DOCUMENT MANAGEMENT
SEARCH
DISPLAY DOCUMENT
PAGE 1/1
TRANS FILE MEM : 38
LEFT MEM SIZE : 50
DOCUMENT NAME
USER ID
TIME OF STORAGE
NUMBER OF PAGES
SIZE
Prt003
TANAKA
9/8 11:24
100
68
TEST
9/10 9:17
20
17
TRANSFERRED REDESIGNATED FILES.
NOT TRANSFERRED CANCELLED FILES LISTED HERE.
OK
UP
DOWN
191

Fig. 19

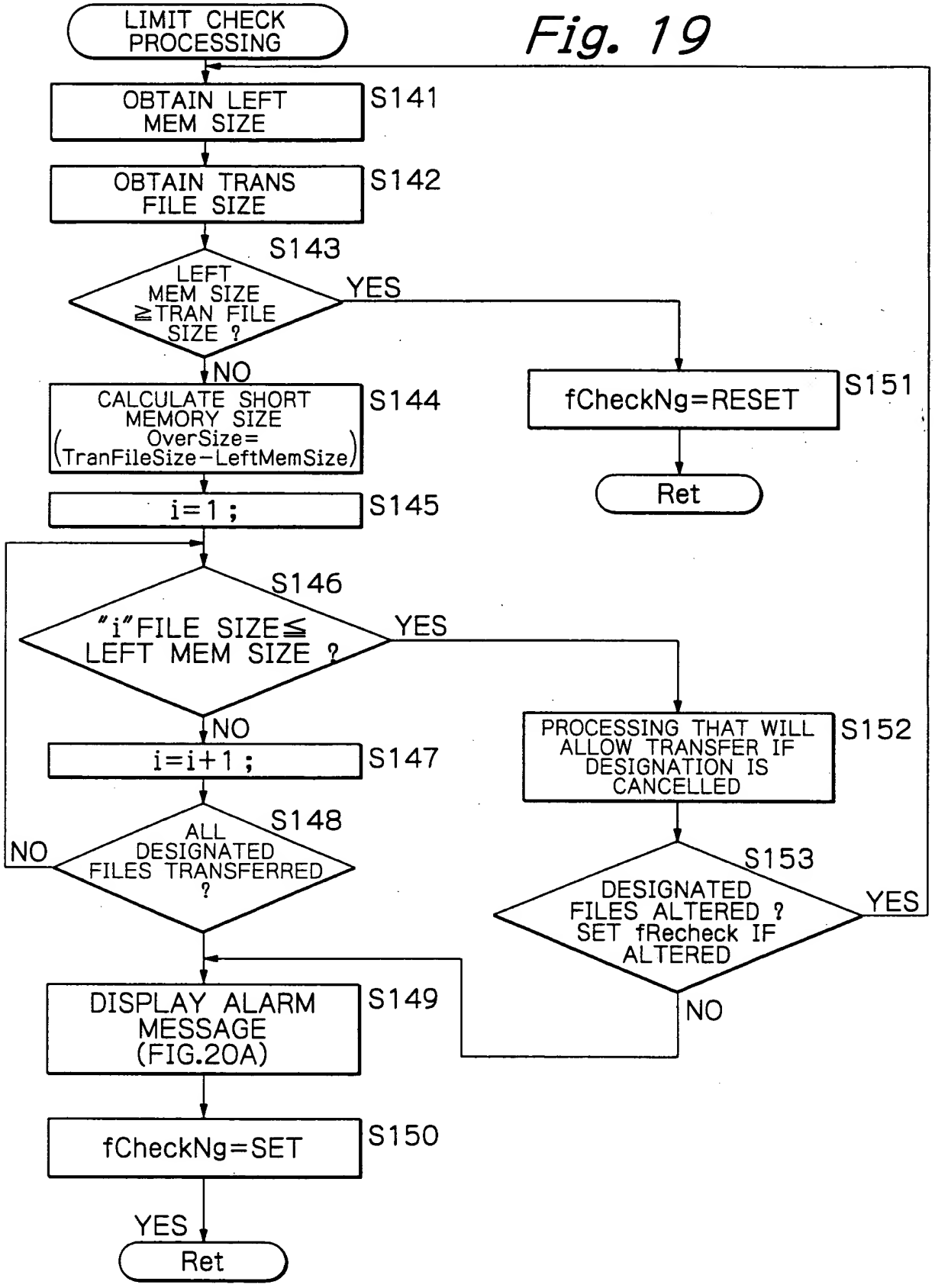

LIMIT CHECK PROCESSING
OBTAIN LEFT MEM SIZE
S141
OBTAIN TRANS FILE SIZE
S142
S143
LEFT MEM SIZE ≧TRAN FILE SIZE ?
YES
NO
CALCULATE SHORT MEMORY SIZE OverSize= (TranFileSize−LeftMemSize)
S144
i=1 ;
S145
S146
"i"FILE SIZE≦ LEFT MEM SIZE ?
YES
NO
i=i+1 ;
S147
S148
ALL DESIGNATED FILES TRANSFERRED ?
NO
DISPLAY ALARM MESSAGE (FIG.20A)
S149
fCheckNg=SET
S150
YES
Ret
fCheckNg=RESET
S151
Ret
PROCESSING THAT WILL ALLOW TRANSFER IF DESIGNATION IS CANCELLED
S152
S153
DESIGNATED FILES ALTERED ? SET fRecheck IF ALTERED
YES
NO

Fig. 20A

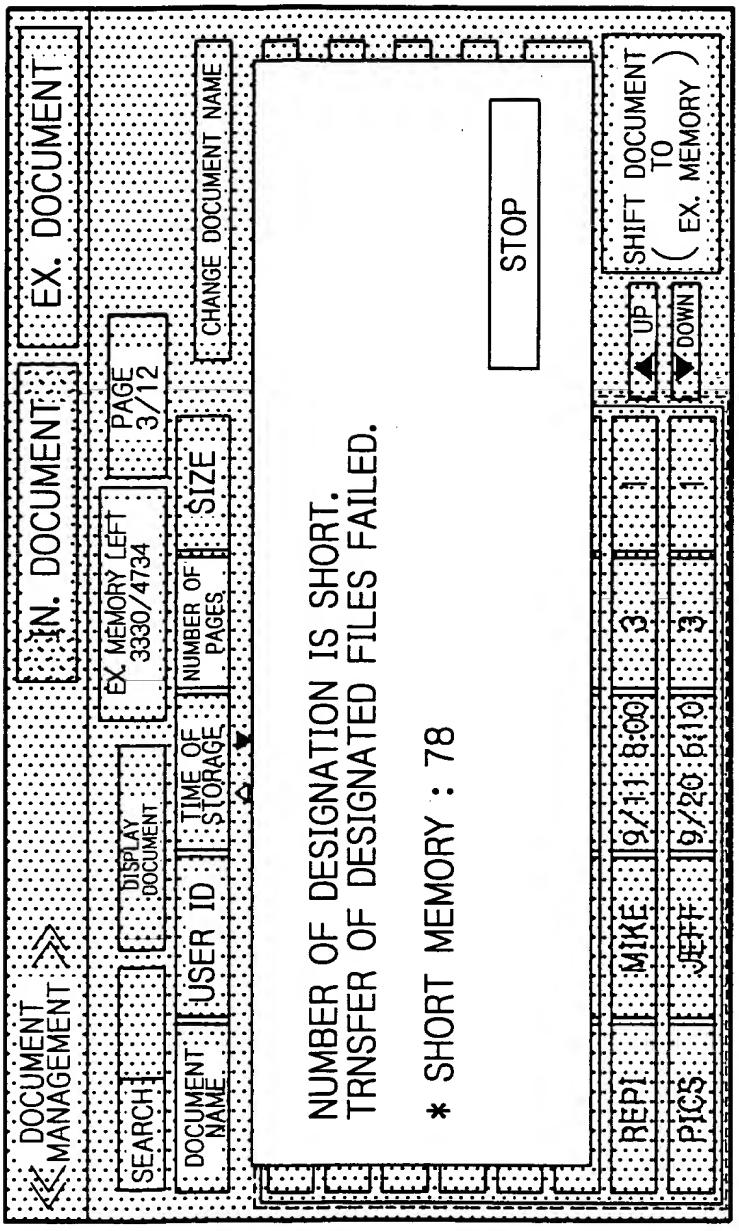

DOCUMENT MANAGEMENT
IN. DOCUMENT
EX. DOCUMENT
SEARCH
DOCUMENT NAME
USER ID
DISPLAY DOCUMENT
TIME OF STORAGE
EX. MEMORY LEFT 3330/4734
NUMBER OF PAGES
SIZE
PAGE 3/12
CHANGE DOCUMENT NAME
NUMBER OF DESIGNATION IS SHORT.
TRNSFER OF DESIGNATED FILES FAILED.
* SHORT MEMORY : 78
STOP
SHIFT DOCUMENT TO (EX. MEMORY)
UP
DOWN
REPI
MIKE
9/11 8:00
3
1
PICS
JEFF
9/20 6:10
3
1

Fig. 20B

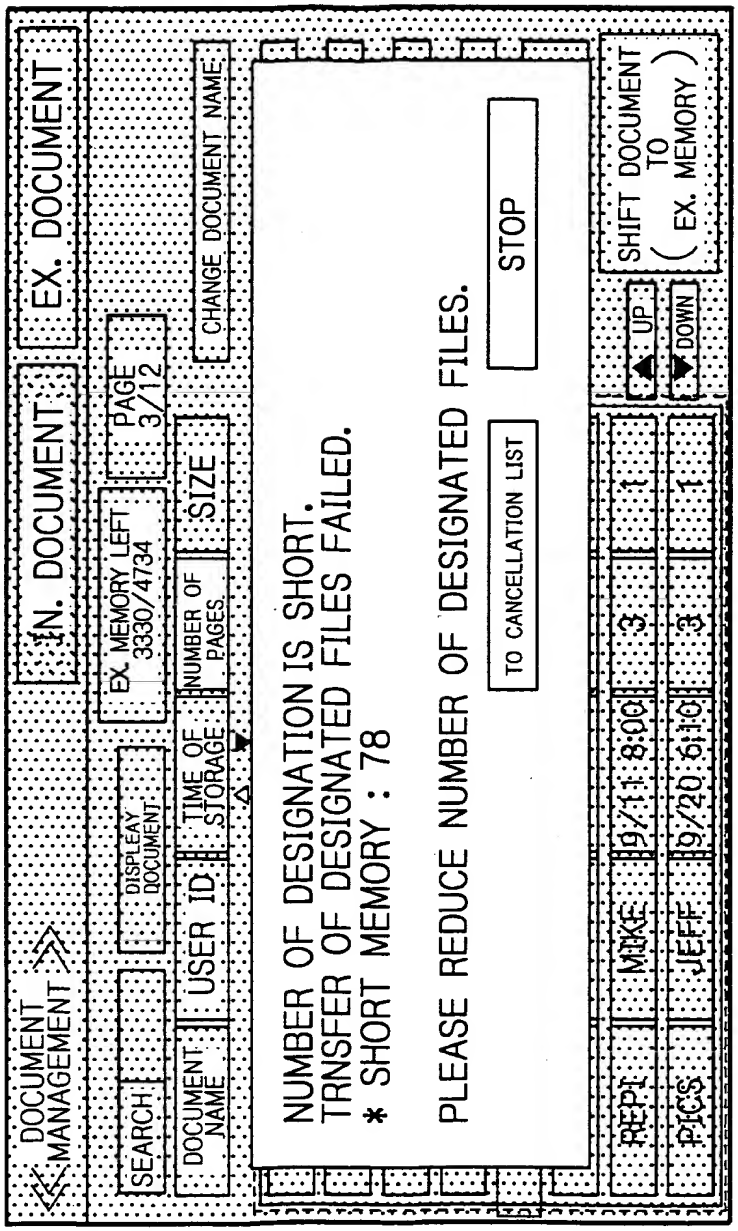

DOCUMENT MANAGEMENT
SEARCH
DOCUMENT NAME
USER ID
TIME OF STORAGE
SIZE
NUMBER OF PAGES
DISPLEAY DOCUMENT
EX. MEMORY LEFT 3330/4734
PAGE 3/12
CHANGE DOCUMENT NAME
IN. DOCUMENT
EX. DOCUMENT
NUMBER OF DESIGNATION IS SHORT.
TRNSFER OF DESIGNATED FILES FAILED.
* SHORT MEMORY : 78
PLEASE REDUCE NUMBER OF DESIGNATED FILES.
TO CANCELLATION LIST
STOP
SHIFT DOCUMENT TO (EX. MEMORY)
UP
DOWN
REPT
MIKE
9/11 8:00
3
1
PICS
JEFF
9/20 6:10
3
1

Fig. 21

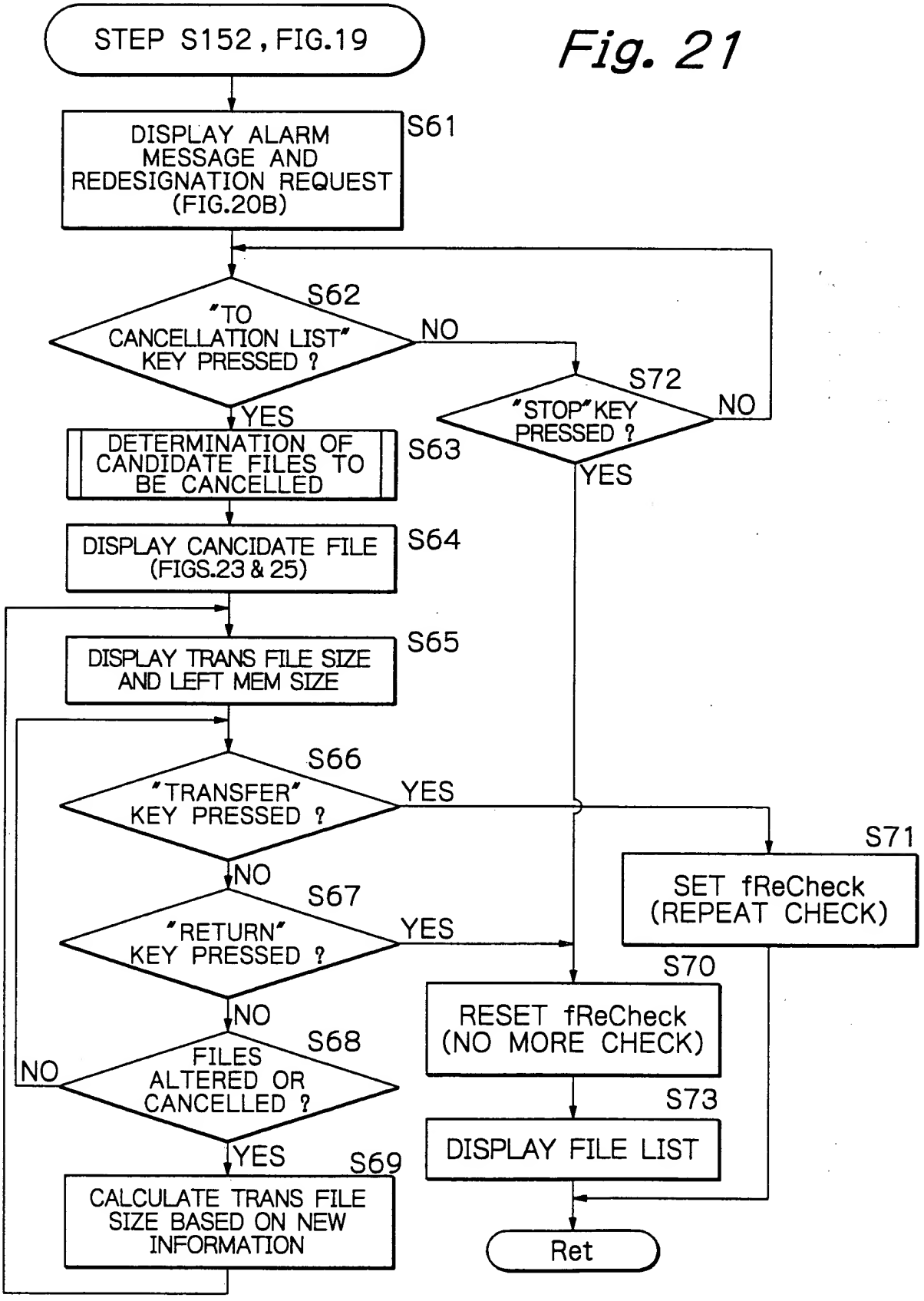

STEP S152, FIG.19
DISPLAY ALARM MESSAGE AND REDESIGNATION REQUEST (FIG.20B)
S61
S62
"TO CANCELLATION LIST" KEY PRESSED ?
NO
YES
S72
"STOP" KEY PRESSED ?
NO
YES
DETERMINATION OF CANDIDATE FILES TO BE CANCELLED
S63
DISPLAY CANCIDATE FILE (FIGS.23 & 25)
S64
DISPLAY TRANS FILE SIZE AND LEFT MEM SIZE
S65
S66
"TRANSFER" KEY PRESSED ?
YES
NO
S67
"RETURN" KEY PRESSED ?
YES
NO
S68
FILES ALTERED OR CANCELLED ?
NO
YES
S69
CALCULATE TRANS FILE SIZE BASED ON NEW INFORMATION
S71
SET fReCheck (REPEAT CHECK)
S70
RESET fReCheck (NO MORE CHECK)
S73
DISPLAY FILE LIST
Ret

Fig. 22

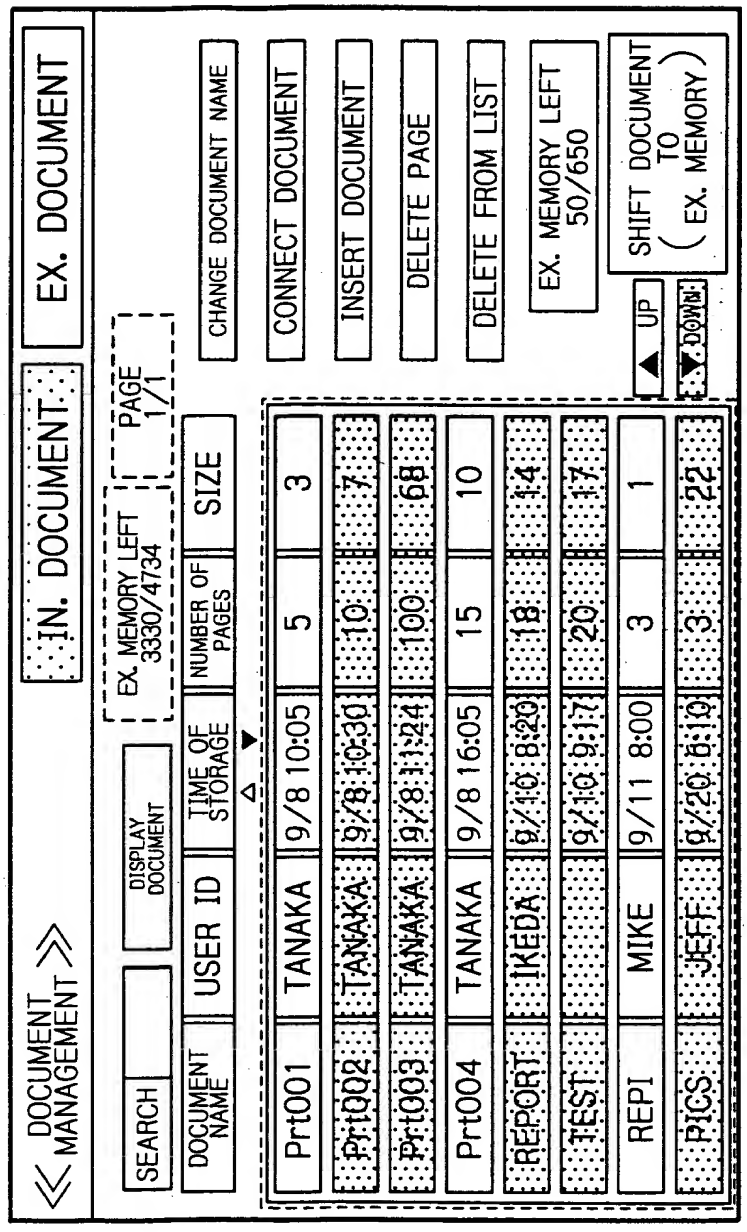

≪ DOCUMENT MANAGEMENT ≫
IN. DOCUMENT
EX. DOCUMENT
SEARCH
DISPLAY DOCUMENT
EX. MEMORY LEFT 3330/4734
PAGE 1/1
DOCUMENT NAME
USER ID
TIME OF STORAGE
NUMBER OF PAGES
SIZE
Prt001 TANAKA 9/8 10:05 5 3
Prt002 TANAKA 9/8 10:30 10 7
Prt003 TANAKA 9/8 11:24 100 68
Prt004 TANAKA 9/8 16:05 15 10
REPORT IKEDA 9/10 8:20 18 14
TEST 9/10 9:17 20 17
REPI MIKE 9/11 8:00 3 1
PICS JEFF 9/20 6:10 3 22
CHANGE DOCUMENT NAME
CONNECT DOCUMENT
INSERT DOCUMENT
DELETE PAGE
DELETE FROM LIST
EX. MEMORY LEFT 50/650
UP
DOWN
SHIFT DOCUMENT TO (EX. MEMORY)

Fig. 23

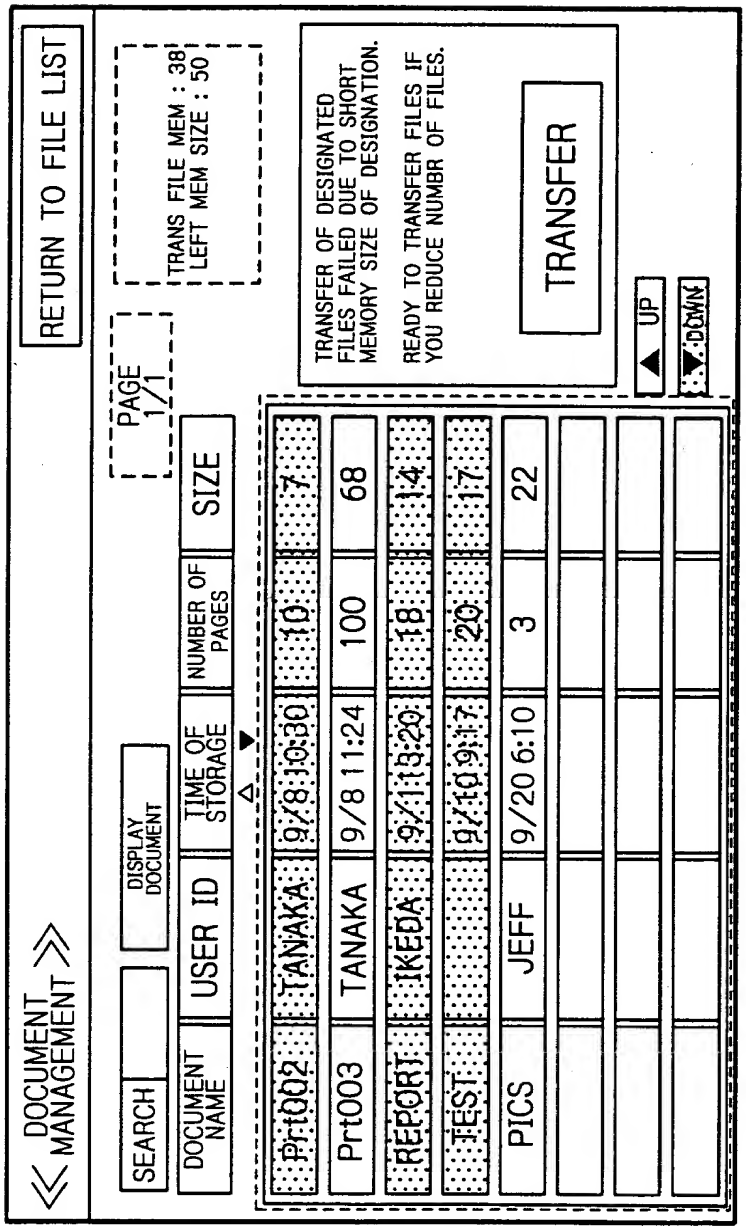

≪ DOCUMENT MANAGEMENT ≫
RETURN TO FILE LIST
SEARCH
DISPLAY DOCUMENT
PAGE 1/1
TRANS FILE MEM : 38
LEFT MEM SIZE : 50
DOCUMENT NAME
USER ID
TIME OF STORAGE
NUMBER OF PAGES
SIZE
Prt002 TANAKA 9/8 10:30 10 7
Prt003 TANAKA 9/8 11:24 100 68
REPORT IKEDA 9/11 13:20 18 14
TEST 9/10 9:17 20 17
PICS JEFF 9/20 6:10 3 22
TRANSFER OF DESIGNATED FILES FAILED DUE TO SHORT MEMORY SIZE OF DESIGNATION.
READY TO TRANSFER FILES IF YOU REDUCE NUMBR OF FILES.
TRANSFER
▲ UP
▼ DOWN

Fig. 24

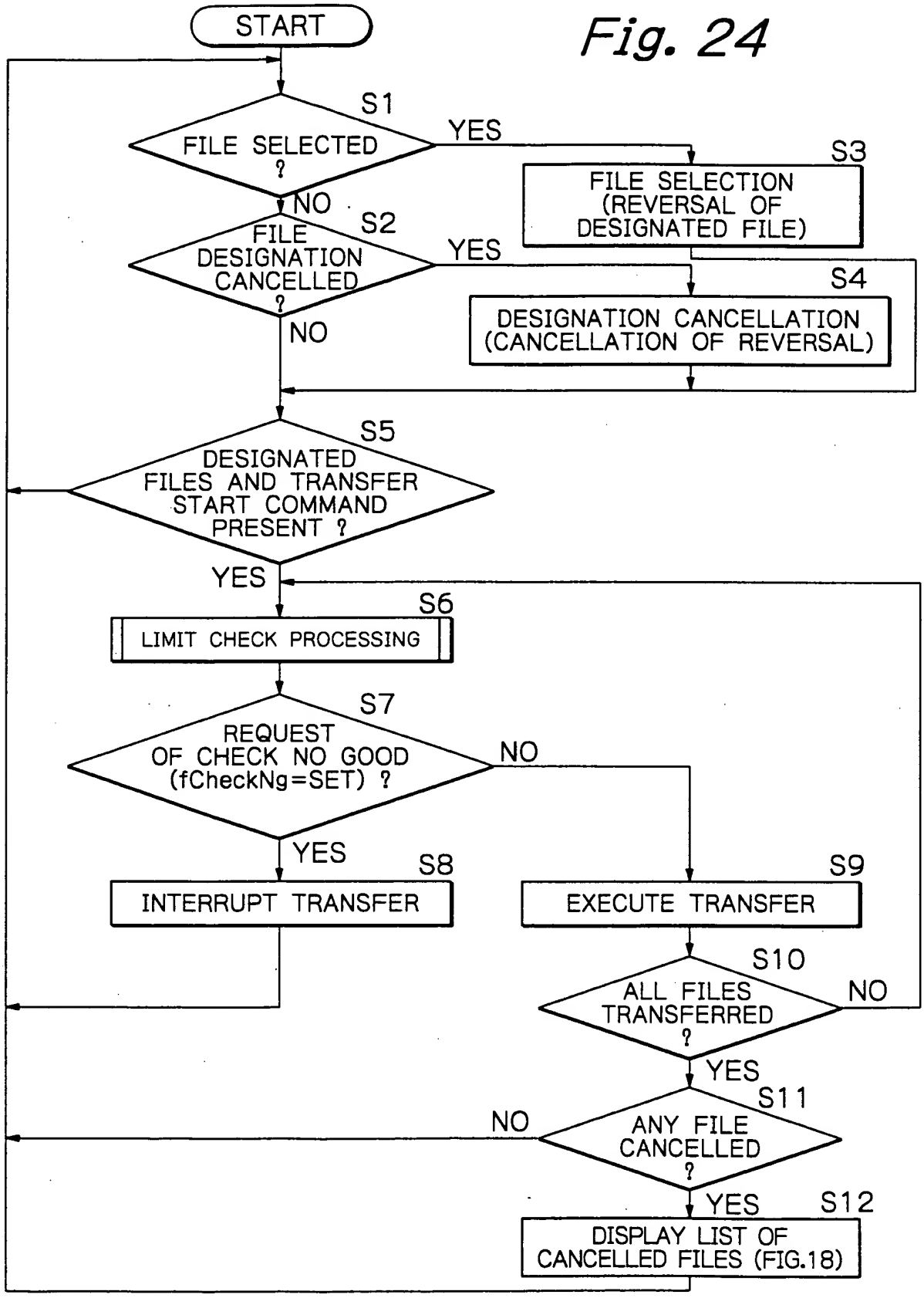

START
S1
FILE SELECTED ?
YES
S3
FILE SELECTION (REVERSAL OF DESIGNATED FILE)
NO
S2
FILE DESIGNATION CANCELLED ?
YES
S4
DESIGNATION CANCELLATION (CANCELLATION OF REVERSAL)
NO
S5
DESIGNATED FILES AND TRANSFER START COMMAND PRESENT ?
YES
S6
LIMIT CHECK PROCESSING
S7
REQUEST OF CHECK NO GOOD (fCheckNg=SET) ?
NO
YES
S8
INTERRUPT TRANSFER
S9
EXECUTE TRANSFER
S10
ALL FILES TRANSFERRED ?
NO
YES
S11
ANY FILE CANCELLED ?
NO
YES
S12
DISPLAY LIST OF CANCELLED FILES (FIG.18)

Fig. 25

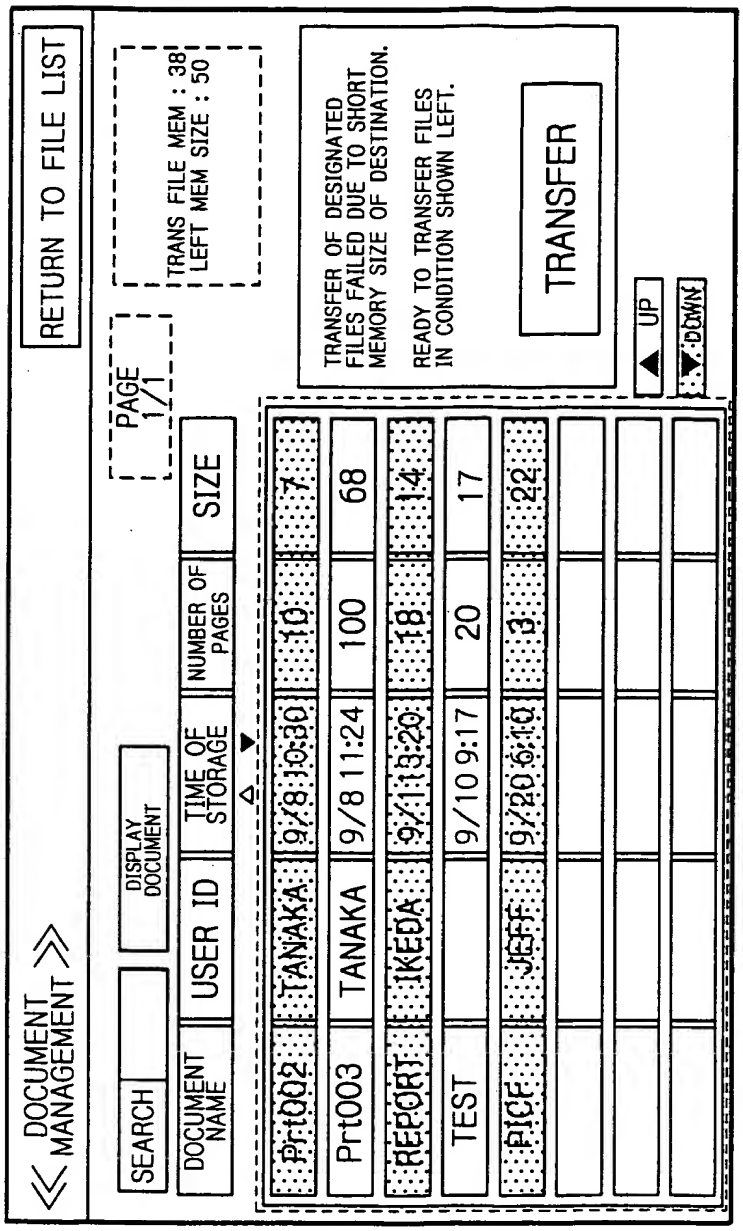

RETURN TO FILE LIST
DOCUMENT MANAGEMENT
SEARCH
DISPLAY DOCUMENT
PAGE 1/1
TRANS FILE MEM : 38
LEFT MEM SIZE : 50
DOCUMENT NAME
USER ID
TIME OF STORAGE
NUMBER OF PAGES
SIZE
Prt002 TANAKA 9/8 10:30 10 7
Prt003 TANAKA 9/8 11:24 100 68
REPORT IKEDA 9/11 13:20 18 14
TEST 9/10 9:17 20 17
PICF JEFF 9/20 6:10 3 22
TRANSFER OF DESIGNATED FILES FAILED DUE TO SHORT MEMORY SIZE OF DESTINATION.
READY TO TRANSFER FILES IN CONDITION SHOWN LEFT.
TRANSFER
UP
DOWN

Fig. 26

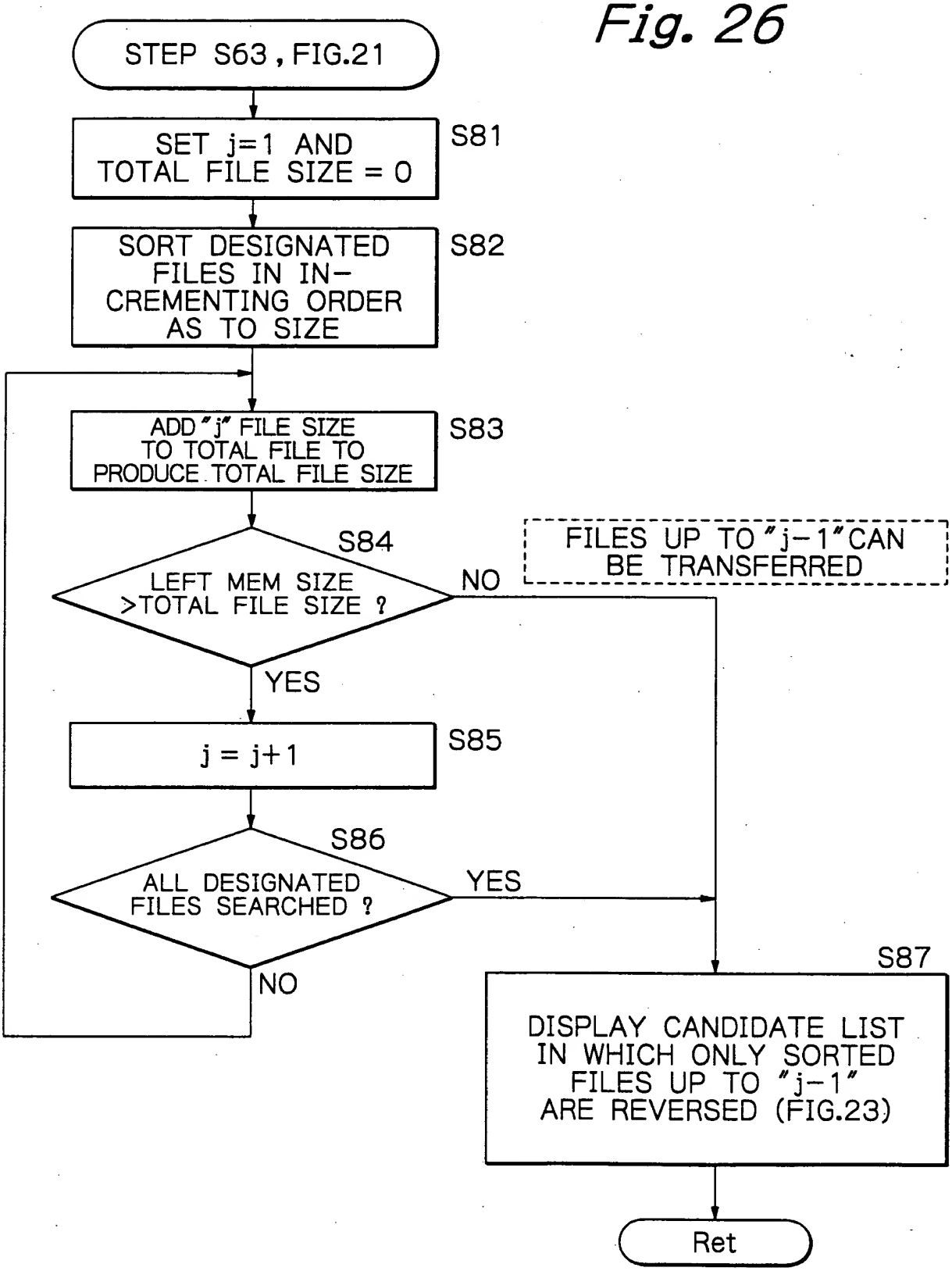

STEP S63, FIG.21
SET j=1 AND TOTAL FILE SIZE = 0
S81
SORT DESIGNATED FILES IN INCREMENTING ORDER AS TO SIZE
S82
ADD "j" FILE SIZE TO TOTAL FILE TO PRODUCE TOTAL FILE SIZE
S83
S84
LEFT MEM SIZE >TOTAL FILE SIZE ?
NO
FILES UP TO "j-1" CAN BE TRANSFERRED
YES
j = j+1
S85
S86
ALL DESIGNATED FILES SEARCHED ?
YES
NO
S87
DISPLAY CANDIDATE LIST IN WHICH ONLY SORTED FILES UP TO "j-1" ARE REVERSED (FIG.23)
Ret

Fig. 27A

Fig. 27

Fig.27A

Fig.27B

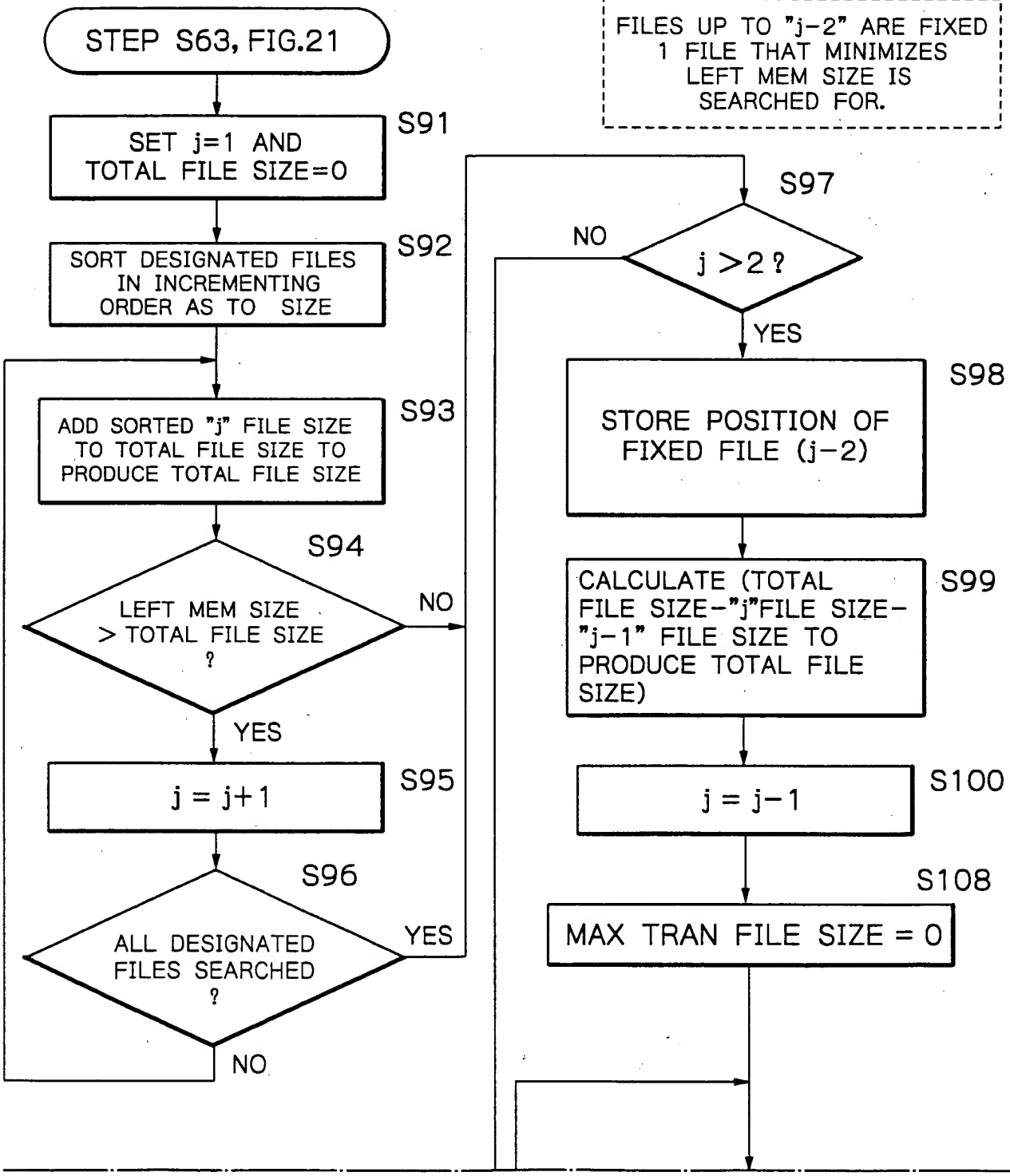


Fig. 27B

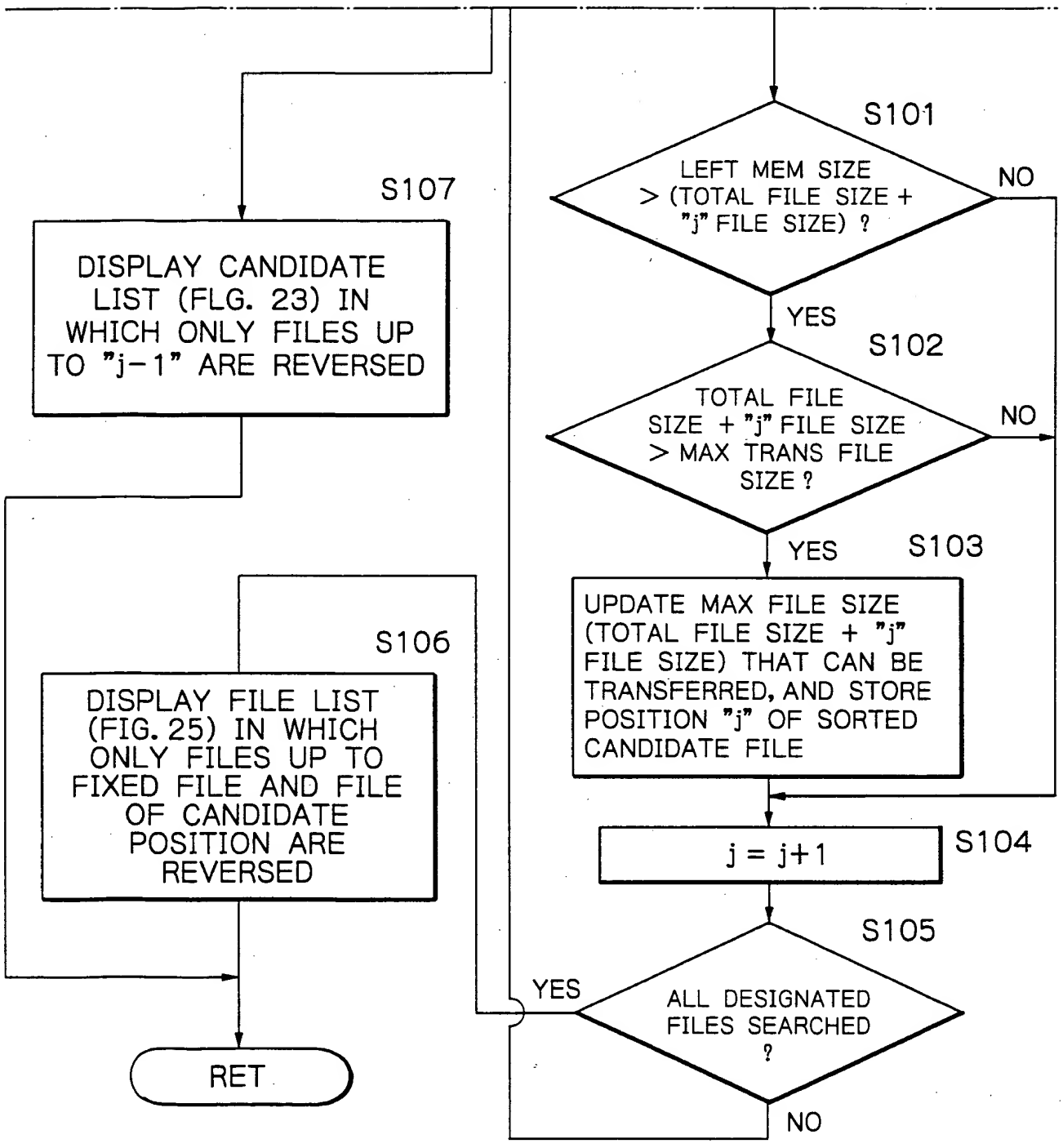

S101
LEFT MEM SIZE > (TOTAL FILE SIZE + "j" FILE SIZE) ?
NO
YES
S102
TOTAL FILE SIZE + "j" FILE SIZE > MAX TRANS FILE SIZE ?
NO
YES
S103
UPDATE MAX FILE SIZE (TOTAL FILE SIZE + "j" FILE SIZE) THAT CAN BE TRANSFERRED, AND STORE POSITION "j" OF SORTED CANDIDATE FILE
j = j+1
S104
S105
ALL DESIGNATED FILES SEARCHED ?
YES
NO
S106
DISPLAY FILE LIST (FIG. 25) IN WHICH ONLY FILES UP TO FIXED FILE AND FILE OF CANDIDATE POSITION ARE REVERSED
S107
DISPLAY CANDIDATE LIST (FLG. 23) IN WHICH ONLY FILES UP TO "j-1" ARE REVERSED
RET

Fig. 28

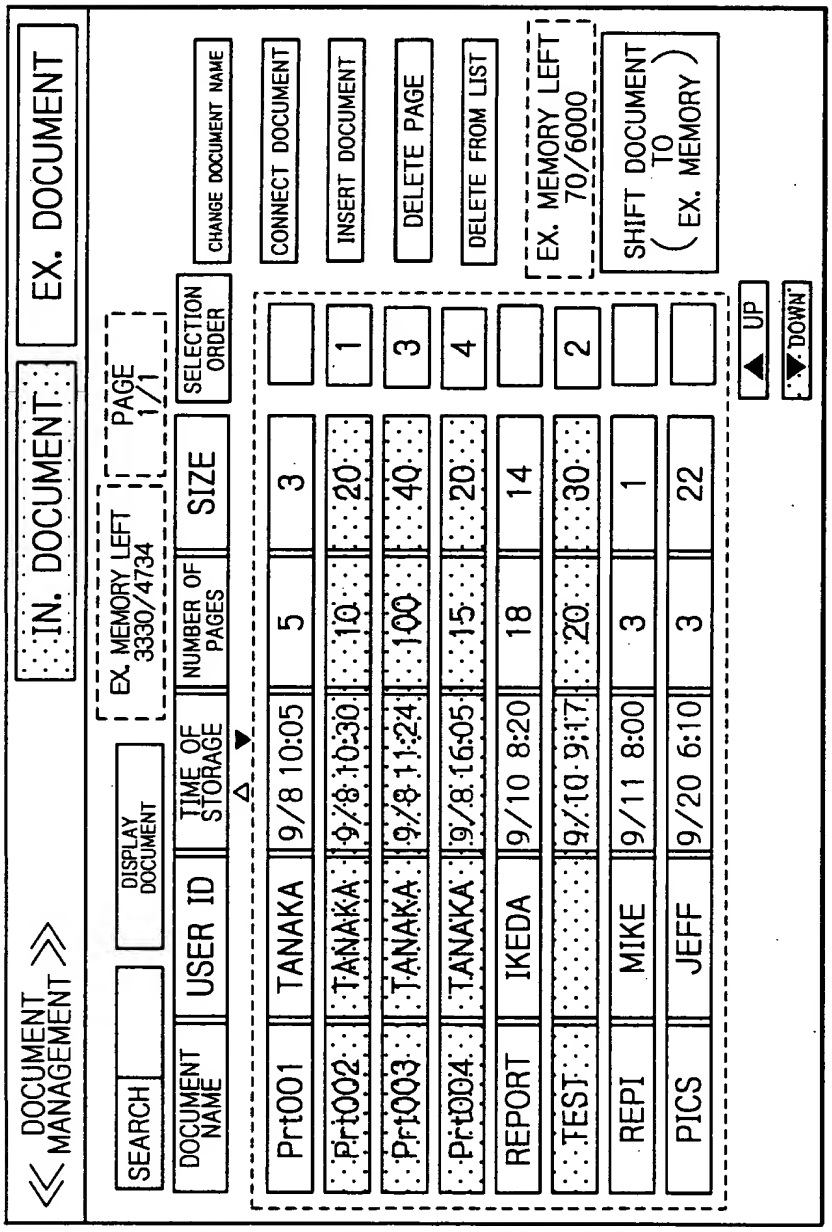

≪ DOCUMENT MANAGEMENT ≫
IN. DOCUMENT
EX. DOCUMENT
SEARCH
DISPLAY DOCUMENT
EX. MEMORY LEFT 3330/4734
PAGE 1/1
DOCUMENT NAME
USER ID
TIME OF STORAGE
NUMBER OF PAGES
SIZE
SELECTION ORDER
CHANGE DOCUMENT NAME
CONNECT DOCUMENT
INSERT DOCUMENT
DELETE PAGE
DELETE FROM LIST
EX. MEMORY LEFT 70/6000
SHIFT DOCUMENT TO (EX. MEMORY)
Prt001 TANAKA 9/8 10:05 5 3
Prt002 TANAKA 9/8 10:30 10 20 1
Prt003 TANAKA 9/8 11:24 100 40 3
Prt004 TANAKA 9/8 16:05 15 20 4
REPORT IKEDA 9/10 8:20 18 14
TEST 9/10 9:17 20 30 2
REPI MIKE 9/11 8:00 3 1
PICS JEFF 9/20 6:10 3 22
▲ UP
▼ DOWN

Fig. 29

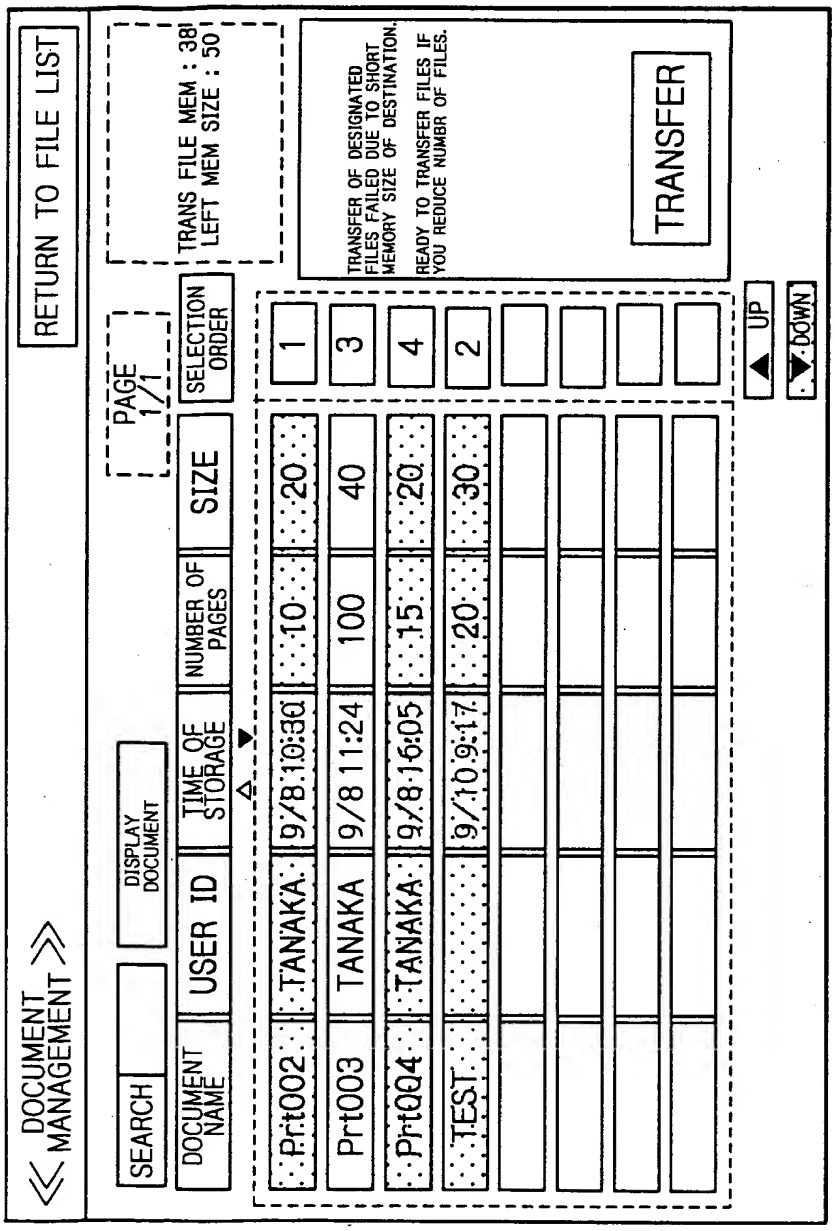

DOCUMENT MANAGEMENT
RETURN TO FILE LIST
SEARCH
DISPLAY DOCUMENT
PAGE 1/1
TRANS FILE MEM : 38
LEFT MEM SIZE : 50
DOCUMENT NAME
USER ID
TIME OF STORAGE
NUMBER OF PAGES
SIZE
SELECTION ORDER
Prt002 TANAKA 9/8 10:30 10 20 1
Prt003 TANAKA 9/8 11:24 100 40 3
Prt004 TANAKA 9/8 16:05 15 20 4
TEST 9/10 9:17 20 30 2
TRANSFER OF DESIGNATED FILES FAILED DUE TO SHORT MEMORY SIZE OF DESTINATION.
READY TO TRANSFER FILES IF YOU REDUCE NUMBR OF FILES.
TRANSFER
UP
DOWN

Fig. 30

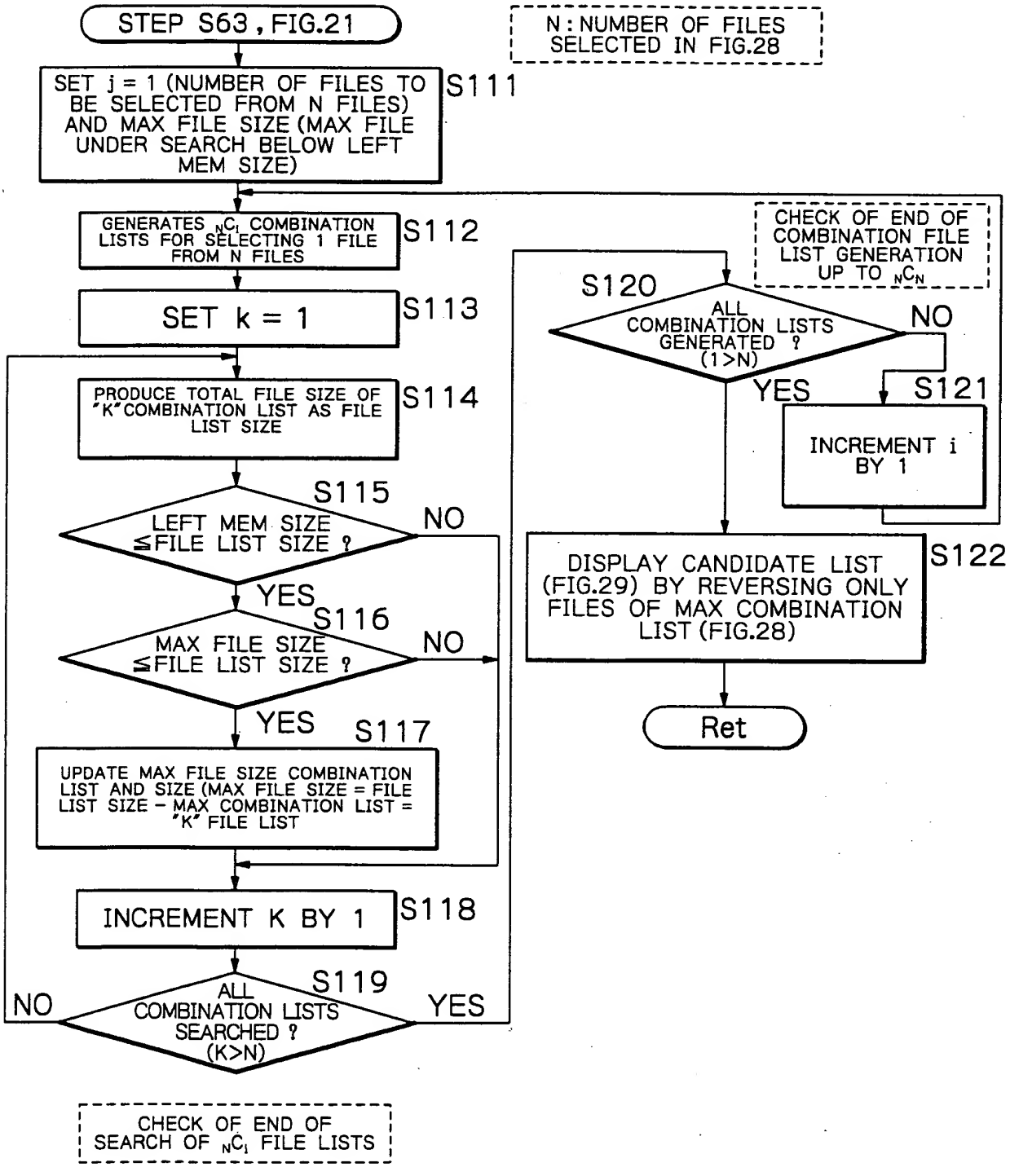

STEP S63, FIG.21
N : NUMBER OF FILES SELECTED IN FIG.28
SET j = 1 (NUMBER OF FILES TO BE SELECTED FROM N FILES) AND MAX FILE SIZE (MAX FILE UNDER SEARCH BELOW LEFT MEM SIZE)
S111
GENERATES $_NC_i$ COMBINATION LISTS FOR SELECTING 1 FILE FROM N FILES
S112
SET k = 1
S113
PRODUCE TOTAL FILE SIZE OF "K" COMBINATION LIST AS FILE LIST SIZE
S114
S115
LEFT MEM SIZE ≦FILE LIST SIZE ?
NO
YES
S116
MAX FILE SIZE ≦FILE LIST SIZE ?
NO
YES
S117
UPDATE MAX FILE SIZE COMBINATION LIST AND SIZE (MAX FILE SIZE = FILE LIST SIZE − MAX COMBINATION LIST = "K" FILE LIST
INCREMENT K BY 1
S118
S119
ALL COMBINATION LISTS SEARCHED ? (K>N)
NO
YES
CHECK OF END OF SEARCH OF $_NC_i$ FILE LISTS
CHECK OF END OF COMBINATION FILE LIST GENERATION UP TO $_NC_N$
S120
ALL COMBINATION LISTS GENERATED ? (1>N)
NO
YES
S121
INCREMENT i BY 1
DISPLAY CANDIDATE LIST (FIG.29) BY REVERSING ONLY FILES OF MAX COMBINATION LIST (FIG.28)
S122
Ret

Fig. 31A

Fig. 31
Fig.31A
Fig.31B

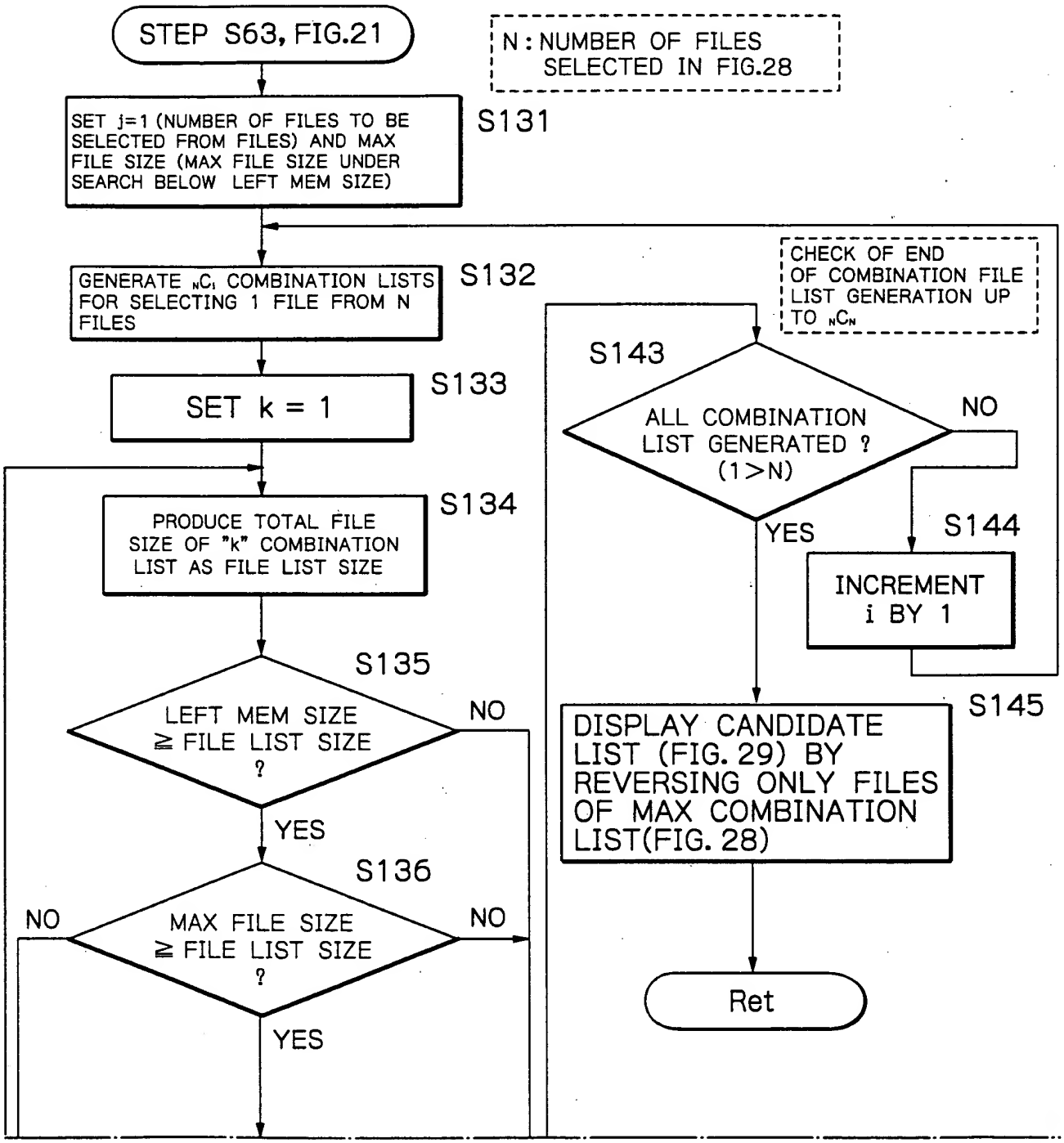
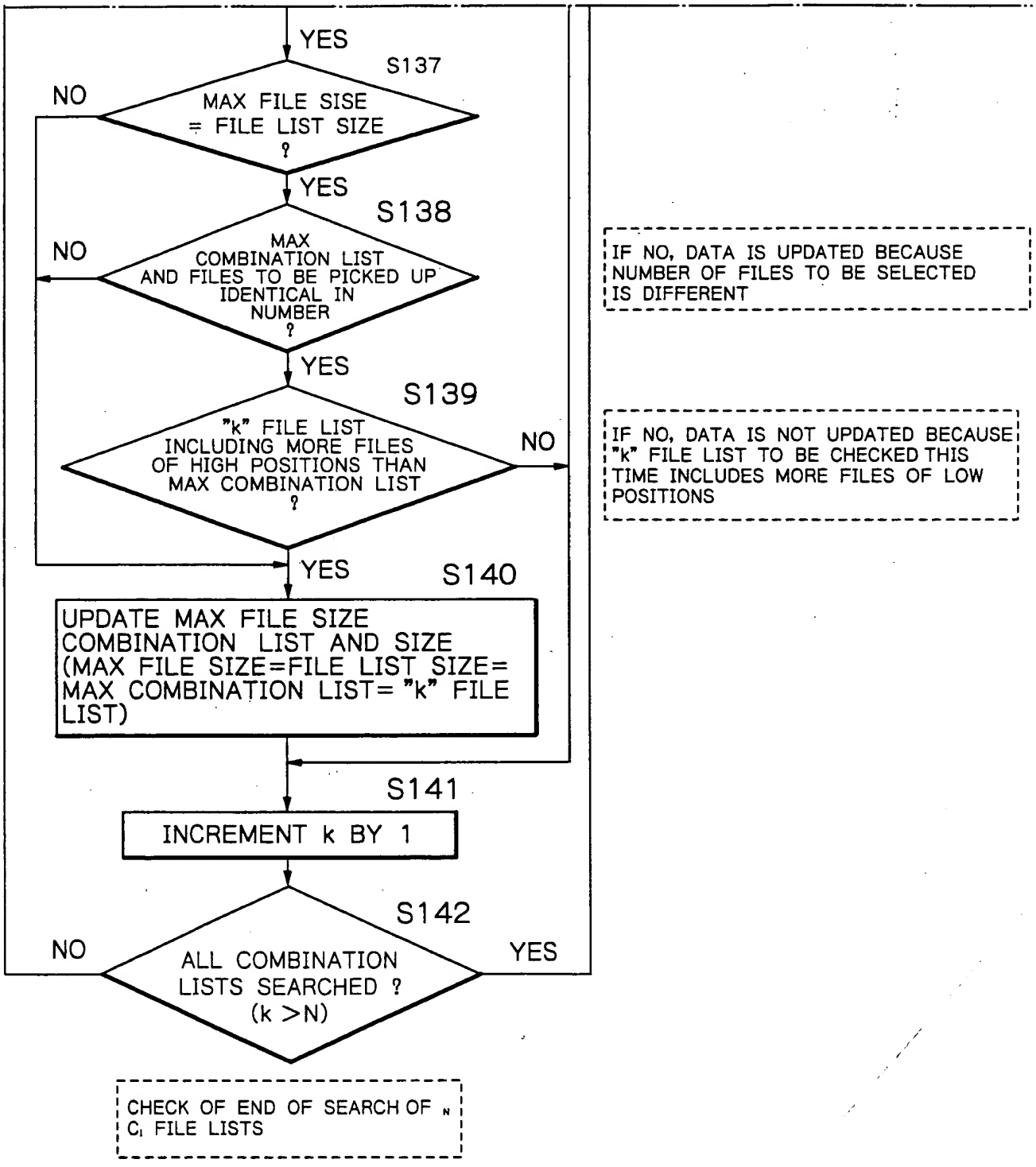


Fig. 31B


YES
S137
NO
MAX FILE SISE = FILE LIST SIZE ?
YES
S138
NO
MAX COMBINATION LIST AND FILES TO BE PICKED UP IDENTICAL IN NUMBER ?
YES
S139
"k" FILE LIST INCLUDING MORE FILES OF HIGH POSITIONS THAN MAX COMBINATION LIST ?
NO
YES
S140
UPDATE MAX FILE SIZE COMBINATION LIST AND SIZE (MAX FILE SIZE=FILE LIST SIZE= MAX COMBINATION LIST= "k" FILE LIST)
S141
INCREMENT k BY 1
S142
NO
ALL COMBINATION LISTS SEARCHED ? (k >N)
YES
CHECK OF END OF SEARCH OF $_N C_i$ FILE LISTS
IF NO, DATA IS UPDATED BECAUSE NUMBER OF FILES TO BE SELECTED IS DIFFERENT
IF NO, DATA IS NOT UPDATED BECAUSE "k" FILE LIST TO BE CHECKED THIS TIME INCLUDES MORE FILES OF LOW POSITIONS